Syllabus
General Physics: SCPY 178

2016 1st Semester Thursday (8.30am-11.30pm)

Course coordinator:
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Instructuors:
1. Assoc. Prof. Wannapong Triampo (WT)
2. Lect. Yodchay Chompol (YC)

Office Hours: Thursday 3:00-4:00 PM and by appointment.

Course Description: The General physics presented with emphasis on the general knowledges of physics at the 1st year college level emphasizing on materials science and engineering field. It includes Oscillation motion, system of many particles, motions of rigid bodies, laws of thermodynamics, direction of thermodynamic processes, entropy, diffraction, interference and polarization of light, Gauss's law, Ampere's law, Maxwell's equations, electrical circuits containing capacitors and inductors, Lorentz transformation, relativistic momentum and energy, black body radiation, wave-particle duality, wave function and probability of finding particles, Schrödinger's equation, single-electrons atom, quantum numbers, electron configurations in atoms, periodic table, structures and properties of nucleus, binding energy, nuclear models, nuclear fission, nuclear fusion, elementary particles, standard model of elementary particles.

Texts: Fundamentals of Physics 8-10th Edition by David Halliday, Robert Resnick (Author), Jearl Walker (Author)

COURSE WEB SITE: The primary electronic means of individual communication for this course is email. However, we will also use a site for general course information called which is located at http://www.ilearnsci.com/428347571
If we change to use this site also as the major site for individual electronic communication, we shall notify all registered students in class and via email.

HOMEWORK: Reading assignments will be made daily, and **homework exercises will be assigned every day in the classroom and/or on the course web site**. Homework accounts for 10% of the course grade. Collaboration on homework is encouraged, and questions are always welcome in class and outside of class. Although, if you work on the homework with other students, don't submit work that is not yours. Homework submissions that are absolutely identical will receive zero credit. Homework must be submitted at the beginning of class each next lecture day. **Late homework will not be accepted, unless a justified excuse is validated.**

EXAMINATIONS & QUIZZES: There will be a midterm exam and a final exam. All exams are

closed book without the aid of calculators. The midterms will be given during the regular class and will cover material incrementally through the semester, and the final exam will be materials over the second half of the course. **There will be no make-up exams or quizzes given for any tests in this course. A missed exam probably will prevent you from passing** unless you have approval from your professor before the exam because of an extreme emergency.

Although attendance in the lectures is not a factor in grading, the quizzes are a factor in grading. They will not be announced in advance, and they will be given randomly. The quizzes will cover material discussed in the current and very recent lectures.

GRADING: Your grade will be determined according to the following distribution. (Part of the homework grade may be based on work done in class.):
Homework - 10%,
Random Quizzes – 15%,
Project - 15%,
Midterm – 30%,
Final Examination 30%.

Tentative grading criterion:

80-100	A
70-79	B+
60-69	B
50-59	C+
40-49	C
30-39	D+
20-29	D
Below 20	F

ACADEMIC INTEGRITY: The use of unauthorized material, communication with others during an examination or quiz, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination quiz, or other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behavior resulting from nervous tensions accompanying examinations. Where a clear violation has occurred, however, the instructor may disqualify the student's work as unacceptable and assign a failing score on the paper. It is particularly important that you are aware of and avoid plagiarism, cheating on examinations and quizzes, fabricating data for a project assignment, submitting a paper to more than one professor, or submitting work authored by anyone but yourself. Violations will result in penalties, which may be severe such as resulting in a failing grade in the course, and will be reported to the Office of Student Conduct. If you have doubts about any of these policies, you must confer with the professor.

RETENTION OF PAPERWORK: Graded paperwork, if not distributed to a student in class, will be available, during regular university office hours, in room R3/1 the days following its availability in class.

IMPORTANT DATES

Mid Term - October 13, 2016

Final Exam - December 15, 2016

In addition to modifications of the proposed schedule, it may be necessary to make some other adjustments in the syllabus during the semester. The syllabus posted on the course website is the updated syllabus.

PROPOSED SCHEDULE as of 18 August 2016

Since no two classes are ever the same, you should expect that there might be changes to the schedule as the needs of the students in this class evolve. You are expected to study the reading assignments carefully before the class meetings.

NO	Date	Topics	Instructor
1	18 Aug.	Oscillation motion	YC
2	25 Aug.	System of many particles	YC
3	1 Sep.	Motions and dynamicsof rigid bodies	YC
4	8 Sep.	Thermodynamics	YC
5	15 Sep.	Thermodynamic processes, entropy	YC
6	22 Sep.	Diffraction and interference of light	YC
7	29 Sep.	Polarization of light	YC
8	6 Oct.	Gauss's law	YC
9	13 Oct.	Midterm Examination	
10	20 Oct.	Maxwell's equations	WT
11	27 Oct.	Electrical circuits containing	WT
12	3 Oct.	Modern physics	WT
13	10 Oct.	Wave function & Schrödinger's equation	WT
14	17 Oct.	Atomic and molecular physics	WT
15	24 Oct.	Nuclear physics and radioactivity	WT

16	1 Dec.	Elementary particles	WT
17	15 Dec.	Final Examination	