

Course Syllabus

1. **Name of Curriculum** Bachelor of Science Program
Mahidol University International College
2. **Course Code** ICPY 212
3. **Course Title** General physics II
4. **Number of Credits** 4 (Lecture/ Lab - 4/-)
5. **Prerequisites** None
6. **Type of Course** Require Course for major and minor in physics
7. **Trimester/ Academic Year** Second Trimester/ 2012
8. **Course Description** theory of relativity, quantum theory, atom theory of hydrogen atom, nuclear physics

9. Course Objectives

1. To provide students an understanding of the fundamental principles of physics and its applications with emphasis on theory of special relativity, quantum theory, atomic theory and nuclear physics.
2. Students should be able to solve basic problems using fundamental equations developed in the areas listed above.
3. Students should be able to apply fundamental principles of these fields of study to new situations
4. Students should be able to use and handle some physical instruments
5. Students should be able to perform and explain the aims and techniques in various physical experiments

9. Course Outline

Week	Topic	Hour (Instructor)
1	Overview, Einstein's postulates, Lorentz transformation, length contraction and time dilation.	4 (A. Santi)
2-3	Relativistic Mechanics	8 (A. Santi)
3-4	Quantum theory of wave(photon)and applications	4 (A. Santi)
5	Quantum theory of particle (matter wave)	4 (A. Santi)
6	Schrodinger equation, particle in the box, potential	4 (A. Santi)

	step, wall, well etc.,	
7-8	Quantum theory of hydrogen atom	4 (A. Santi)
8	Applications	8 (A. Santi)
9-10	Basic properties of nucleus, nuclear binding energy	4 (A. Santi)
11	Nuclear instability and decay	4 (A. Santi)
	Total	44

10. Teaching Methods

Lecturing and classroom discussion

11. Teaching Media

Transparencies and handouts

12. Course Achievement

Final letter grades will be assigned from a mark

13. Course Evaluation

Attendance and quiz	10%
Assignment	20%
Midterm examination	30%
Final Examination	40%
Total	100%

14. References

1. Paul A. Tipler, "Elementary Modern Physics", 5th Edition, Worth Publishers, Inc.
2. David Halliday, Robert Resnick, Jearl Walker, "Fundamentals of Physics", 6th Edition, John Wiley & Sons, Inc.

15. Instructors Assistant Professor Santi Watanayon

16. Coordinator Assistant Professor Santi Watanayon