Georgetown University,
Department of Physics

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BASIC PHYSICS, Phys-007-20

Summer 2017 - Syllabus

as of March 22, 2017

Description and Structure of the Course

Second Session	July10, 2017 – August 11, 2017
Number of periods	25 × 90 min. each + 1×120 min. (Final Exam)
Total number of hours	36 hours + 2 hours (Final Exam) = 38 hours
Days and Time	Monday through Friday, 1:00 - 2:30 p.m.
Classroom.	Reiss #502
Professor	*Mark A. Esrick*

B. Textbooks

Paul G. Hewitt, *Conceptual Physics*, 12th Ed.. (required)
P. G. Hewitt & P. R. Wolf, *Problem Solving in Conceptual Physics* (optional)[1]

C. Examinations

- *Homework* (Hwk #1 through #4) **28%** of the final grade
- *Three* 30-minute *Tests* (T1 through T3) **24%**
- *Four* 15-minute *announced Quizzes* (Q1 through Q4) **20%**
- *Interest & participation* in class **3%**
- A 2-hour *Final Examination* **25%**

D. Course Outline

This 3-credit, algebra-based, course qualifies as one of the science requirements for non-science majors at Georgetown University. It will cover topics in Classical Physics (Mechanics, Heat, Electromagnetism and Optics) and will include some topics in Modern Physics if time permits.

E. Tentative Timetable

Period/Date	Topic	Chapter	Pages[2]	Examinations (Ch.#)	Comments
1 – M, 07/10	About Science - Measurements	1	1-14		
2 – T, 07/11	About Motion; Newton's 1st Law	2	18-30		
3 –W, 07/12	Linear Motion	3	35-44		
4 – R, 07/13	Newton's 2nd Law of Motion	4	51-60		
5 – F, 07/14	Newton's 2nd Law of Motion – cont.	4			
6 – M, 07/17	Newton's 3rd Law of Motion	5	66-77	**Q1** (2, 3, 4) from 2:40 to 3:00	Hwk #1 due
7 – T, 07/18	Momentum	6	83-95		
8 – W, 07/19	Momentum (cont); Work & Energy	6, 7	101-116		
9 – R, 07/20	Rotational Motion	8	122-142		
10 – F, 07/21	Gravity, Projectile & Satellite Motion	9 &10	150-187		
11 – M, 07/24	The Atomic Nature of Matter	11	196-209	**T1** (5, 6, 7, 8) 12:30 -1:00	Hwk #2 due
12 – T, 07/25	Solids	12	212-223		
13 – W, 07/26	Liquids	13	228241	**Q2** (0, 10); 1:00 -1:15	
14 – R, 07/27	Gases	14	247-260		
15 – F, 07/28	Temperature, Heat & Expansion	15	268-279		
16 – M, 07/31	Gas Laws; Heat Transfer	16	284-296	**T2** (11,12,13,14) 12:30 - 1:00	Hwk #3 due
17 – T, 08/01	Vibrations & Waves	19	334-346		
18 – W, 08/02	Sound	20	351-363		
19 – R, 08/03	Electrostatics	22	382-399	**Q3** (15, 16) 1:00-1:15	
20 – F, 08/04	Electric Current	23	404-418		
21 – M, 08/07	Magnetism	24	424-436	**T3** (19,20,22,23) 12:30 - 1:00	Hwk #4 due
22 – T, 08/08	Electromagnetic Induction	25	440-450		
23 – W, 08/09	Light Properties, Color	26 & 27	456-482	**Q4** (24, 25) 12:40-12:55	
24 – R, 08/10	Reflection and Refraction	28	586-504		
25 – F, 08/11	**Final Exam**			4, 6, 7, 8, 10, 12, 13, 14, 16, 20, 22, 23, 26, 27, 28	1:00 - 3:00

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[1] The textbook(s) will be available in the GU bookstore, but they may be available at a lower price on the Internet.
[2] The students are required to read the assigned material in advance. Some of the reading may be optional. Always look for the detailed assignment in the *current Homework* to find out what is mandatory and what is optional.

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