

BASIC PHYSICS, Phys-007-20

Summer 2019– Syllabus (Tentative)

Description and Structure of the Course

Second Session July 8, 2019– August 9, 2019

Monday through Friday, 1:00 - 2:30 p.m.

Twenty five classes, ninety minutes per class

Classroom: Reiss #502

Professor: Mark A. Esrick

Textbooks¹

1. Paul G. Hewitt, *Conceptual Physics*, 12th Edition (required)
2. Paul G. Hewitt & P. R. Wolf, *Problem Solving in Conceptual Physics*, 12th Edition (required)

Examinations

<i>Homework</i>	34% of the final grade
<i>Midterm</i>	23%
<i>Four 15-minute announced Quizzes</i>	16%
<i>Interest & participation in class</i>	4%
<i>Two-hour Final Examination</i>	23%

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.

Tentative Timetable

Period/ Date	Topic	Chapters
1 – M, 07/08	About Science – Measurements & About Motion; Newton’s 1 st Law	1, 2
2 – T, 07/09	About Motion; Newton’s 1 st Law (cont)	2
3 – W, 07/10	Linear Motion	3
4 – R, 07/11	Newton’s 2 nd Law of Motion	4
5 – F, 07/12	Newton’s 2 nd Law of Motion – cont.	4
6 – M, 07/15	Newton’s 3 rd Law of Motion	5
7 – T, 07/16	Momentum	6
8 – W, 07/17	Momentum Work & Energy	6, 7
9 – R, 07/18	Rotational Motion	8
10 – F, 07/19	Gravity, Projectile & Satellite Motion	9 &10
13 – M, 07/22	Liquids	13
14 – T, 07/23	Gases	14
15 – W, 07/24	Temperature, Heat & Expansion	15
16 – R, 07/25	Heat Transfer	16
15 – F, 07/26	Thermodynamics	18

Period/ Date	Topic	Chapters
16 – M, 07/29	Vibrations & Waves	19
17 – T, 07/30	Sound	20
17 – W, 07/31	Electrostatics	22
19 – R, 08/01	Electric Current	23
20 – F, 08/02	Magnetism	24
21 – M, 08/05	Electromagnetic Induction	25
22 – T, 08/06	Properties of Light	26
23 – W, 08/07	Reflection and Refraction	28
24 – R, 08/08	Light Waves	29
25 – F, 08/09	Final Exam	

¹ The textbooks will be available in the GU bookstore, but they may be available at a lower price on the Internet.