

**BASIC PHYSICS, Phys-007-20**  
**Summer 2018 – Syllabus & (Tentative)**  
*as of March 11, 2018*

**A. Description and Structure of the Course**

*Second Session* July 9, 2018 – August 10, 2018  
*Number of periods* 24 × 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<sup>1</sup>**

Paul G. Hewitt, *Conceptual Physics*, 12<sup>th</sup> Edition (required)  
 P. G. Hewitt & P. R. Wolf, *Problem Solving in Conceptual Physics*, 12<sup>th</sup> Edition (required)

**C. Examinations**

- *Homework* 35% of the final grade
- *Three 30-minute Tests* (T1 through T3) 22%
- *Four 15-minute announced Quizzes* (Q1 through Q4) 20%
- *Interest & participation* in class 3%
- *A 2-hour Final Examination* 20%

**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 <sup>2</sup>	Examinations (Ch.#)	Comments
1 – M, 07/09	About Science - Measurements	1		
2 – T, 07/10	About Motion; Newton's 1 <sup>st</sup> Law	2		
3 – W, 07/11	Linear Motion	3		
4 – R, 07/12	Newton's 2 <sup>nd</sup> Law of Motion	4		
5 – F, 07/13	Newton's 2 <sup>nd</sup> Law of Motion – cont.	4		
6 – M, 07/16	Newton's 3 <sup>rd</sup> Law of Motion	5	Q1 (2, 3, 4) from 1:00 - 1:15	
7 – T, 07/17	Momentum	6		
8 – W, 07/18	Momentum (cont); Work & Energy	6, 7		
9 – R, 07/19	Rotational Motion	8		
10 – F, 07/20	Gravity, Projectile & Satellite Motion	9 & 10		
11 – M, 07/23	The Atomic Nature of Matter	11	T1 (5, 6, 7, 8) from 1:00 - 1:30	
12 – T, 07/24	Solids	12		
13 – W, 07/25	Liquids	13	Q2 (9, 10, 11) from 1:00 - 1:15	
14 – R, 07/26	Gases	14		
15 – F, 07/27	Temperature, Heat & Expansion	15		
16 – M, 07/30	Gas Laws; Heat Transfer	16	T2 (12,13,14) from 1:00 - 1:30	
17 – T, 07/31	Vibrations & Waves	19		
18 – W, 08/01	Sound	20		
19 – R, 08/02	Electrostatics	22	Q3 (15, 16) from 1:00-1:15	
20 – F, 08/03	Electric Current	23		
21 – M, 08/06	Magnetism	24	T3 (19,20,22,23) 1:00 - 1:30	
22 – T, 08/07	Electromagnetic Induction	25		
23 – W, 08/08	Light Properties, Color	26 & 27	Q4 (24, 25) 1:00-1:15	
24 – R, 08/09	Reflection and Refraction	28		
25 – F, 08/10	<b>Final Exam</b>		From 1:00 pm - 3:00 pm	

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<sup>1</sup> The textbook(s) will be available in the GU bookstore, but they may be available at a lower price on the Internet.

<sup>2</sup> 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.