# Physics for the Life SciencesSummer 20174 credits CRN 2047Class and lab from 8:30-12:50 M-R Room N439Instructor:R. E. Tremblay; email <a href="mailto:rtrembla@optonline.net">rtrembla@optonline.net</a>Website:</a>http://retremblay.netOnce there, select 'Physics for the Life Sciences'Text:Paul Urone; PHYSICS With Health Science Applications

<u>Course description</u>: This course studies the principles of physics with an emphasis on health science applications. Topics are listed below. The mathematics will be arithmetic, algebra and a little trig. Regular class attendance is expected and participation is encouraged. Bring your text, notebook, calculator and an open mind to every class.

<u>Course objectives:</u> Includes the ability to explain the topics listed below and a working knowledge of the rules listed on the things to know by heart pages of your solution manual. You must be able to solve all of the homework problems without the use of notes.

### **Tentative Schedule**

Date	Торіс	Chapter	Mandatory Home work
May 31	Introduction; displacement, speed, velocity, and acceleratio	2 n	pg. 28 quest 14,15 pg. 29 prob. 1-6,15-17, 29-31
June 1	Forces, Newton's laws, friction Centripetal acceleration Lab 2 Vector Addition	3	pg. 56 quest 4,8,20,22 pg. 58 prob. 1-9,11,20-23 38,39,45-48
5	Energy and work Lab 3 Torque	4	pg. 94 quest 1 pg. 95 prob. 1-9, 22-26,33,34
6	Temperature and Heat Linear expansion, density Lab 4 Specific Heat	5	pg. 131 Q 1,2,3,5,6,8,9,11 pg. 133 prob. 1,4,8,9,13-17, 36,37,39-41,48-50
7	Practice EXAM go over exam in class review and catch-up		
8	EXAM 1-ch. 2-5 Fluids, press. and Medical App.	6	pg. 174 0 1,4,19,24,27
12	Pressure at depth, buoyant for Lab 5 Pressure	ce 6	pg. 176 prob. 1,2,18,19
13	Pressure, Flow Rate lab 6 Magnetic fields	6	pg. 176 prob. 28-35,38
14	Electricity and Magnetism Lab 7 Ohm's Law	10+11	pg. 282 Q 3,7,19 pg. 283 prob. 1-3,7-9,12,13

## Physics for the Life Sciences Summer 2017

Date	Торіс	Chapter	<b>H.W.</b>	
June	•	-		
15	catch-up and review		pg. 308 prob. 1-5,11-16,	
	Electrical safety		32-34	
	Go over practice exam	12	pg. 324 prob. 1- 6	
	If time permits, we start			
	Lab 8 Speed of Sound			
19	Exam 2 (ch. 6, 10-12)			
	Waves, freq., wavelength, ve	locity		
20	Waves, Sound and Hearing	8+9	pg. 245 Prob. 1-3,7-17	
	Intensity, decibels		23,32,33	
	Finish lab 8			
21	Optics; Vision	14+15	pg. 364 prob. 1-12	
	Lab 9 Snell's Law		pg. 386 prob. 1-3,11,12	
22	Electromagnetic Radiation	16	pg. 406 prob. 1-10,14a,16	
	Lab 10-lens lab			
26	Atoms; Quantum Physics	17	pg. 426 1-3,5-7	
27	Radioactivity + Nuc. Physics	18	pg. 462 Prob. 1-4,	
	Lab 11 Radioactive half-life			
28	Nuclear Physics	18	pg. 463 prob. 9-13,	
29	Go over practice exam		23,24,30,31	
	Review and catch-up			

### **29** Exam 3

Course grading: Your final grade for this course will be based on the three exams and your lab grades. There are 11 labs worth a maximum of 10 pts each.

Five Keys to happiness and success in physics:

(1) Do the reading assignment before class and then attempt to answer the questions after the lecture on that material. Memorize the 'Things to know'.

(2) Use the suggested homework questions as a self-check. Compare your answers to those supplied in the solution manual. If you have trouble with them, see me for help.

(3) Don't miss any classes.

(4) Please- don't be afraid to ask questions.

(5) Visit my <u>website</u> on a regular basis. For the textbook, User name: physics

Password: Newton

# Grading

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Exam 1	100 pts	A's= 360-410
Exam 2	100 pts	B's= 320-359
Exam 3	100 pts	C's= 280-319
Labs	110 pts	D's= 240-279
per	fect = 410 pts	F= don't let it happen