

## *SYLLABUS*

# **Physics 6B -- Physics for Life Science Majors: Waves, Electricity and Magnetism**

## **Winter 2013, Lecture 1 & 2**

**Lectures:** Mon/Wed/Fri PAB 1425  
Lecture 1: 11:00-11:50PM Lecture 2: 12:00-12:50PM

**Home Page:** <https://ccle.ucla.edu/course/view/13W-PHYSICS6B-1>

**Instructor:** **Katsushi Arisaka**, Professor of Physics and Astronomy  
**Office:** Knudsen Hall 4-145 Phone: (310) 825-4925  
E-mail: [arisaka.6b@gmail.com](mailto:arisaka.6b@gmail.com)

**Administrator:** Elaine Dolalas, Student Affairs Officer  
PAB 1-707D Phone: (310) 206-1447  
E-mail: [edolalas@physics.ucla.edu](mailto:edolalas@physics.ucla.edu)

**Secretary:** Cassandra Gonzalez  
Knudsen Hall 4-144 Phone (310) 825-3441  
E-mail: [gonzalez@physics.ucla.edu](mailto:gonzalez@physics.ucla.edu)

**Text Book:** Giancoli (9780558824518) Forth edition  
Physics for Scientists & Engineers  
Volume 1 (Chapter 14 – 16)  
Volume 2 (Chapter 21 – 31)

**Supplement:** Physics 6B Laboratory Workbook  
Mastering Physics

**Grading:**

1st Midterm	10%
2nd Midterm	15%
Final	45%
Lab	15%
Home works	15%

**Exams:** There are no make-up exams. The exams will contain only material presented in class by the instructor.

**Home Works** There will be Web-based Homework every week from Mastering Physics. Due on Monday at 2 am.

## Course Outline

---

	<u>Week</u>	<u>Chapter</u>	<u>Topics</u>
1	Jan. 7, 9, 11	14	Oscillations
2	Jan. 14, 16, 18	15	Wave Motion
3	Jan. 23, 25	16	Sound
	<i>Review:</i>	<i>Thursday, Jan. 24 6-8PM (TBA)</i>	
	<b>First Midterm:</b>	<b>Monday, Jan. 28 in Class</b>	
4	Jan. 30, Feb. 1	21	Electric Charge and Electric Fields
5	Feb. 4, 6, 8	22-23	Gauss's Law, Electric Potential
6	Feb. 11, 13, 15	24-25	Capacitors, Current
7	Feb. 20, 22	26	DC Circuits
	<i>Review:</i>	<i>Thursday, Feb 21 6-8PM (TBA)</i>	
	<b>Second Midterm:</b>	<b>Mon, Feb. 25 in Class</b>	
8	Feb. 27, Mar. 1	26- 27	Circuits, Magnetic Force and Magnetic Field
9	March 4, 6, 8	28-29	Source of Magnetic Field, Faraday's Law
10	March 11, 13, 15	30, 31	Inductance, AC Circuits, Maxwell's Equations

---

*Review:* *Thursday, March 7 6-8PM (TBA)*  
*Thursday, March 14 6-8PM (TBA)*

**Final Exams** **Wed, March 20, 8 – 11 AM**

*Academic Holidays:* *Martin Luther King Day* Monday, January 21  
*Presidents' Day* Monday, February 18

---

## 6B LABORATORY SCHEDULE

<u>WEEK OF</u>	<u>EXPERIMENT</u>
JANUARY 7-11.....	NO MEETING
JANUARY 14-18 .....	ORIENTATION & DRIVEN HARMONIC OSCILLATOR
JANUARY 21 (MON).....	MARTIN LUTHER KING, JR. HOLIDAY
JANUARY 22-25 (TUE-FRI).....	STANDING WAVES
JANUARY 28 - FEBRUARY 1 .....	ELECTROSTATICS
FEBRUARY 4 - 8.....	VAN DE GRAAFF
FEBRUARY 11-15.....	NO MEETING
FEBRUARY 18 (MON) .....	PRESIDENTS' DAY HOLIDAY
FEBRUARY 19-22 (TUE-FRI) .....	ELECTRICAL CIRCUITS
FEBRUARY 25 - MARCH 1.....	THE CHARGE-TO-MASS RATIO OF THE ELECTRON
MARCH 4 - 8 .....	MAGNETIC FIELDS OF COILS AND FARADAY'S LAW
MARCH 11-15 .....	NO MEETING