Week 12: Reading & Homework Assignment # 9

Lecturer: Prof. Steven Errede  serrede@illinois.edu  
Office: 435 Loomis (4th floor, SW corner)  
Office Phone: 333-0074.  HEP Sec’y’s:  441 Loomis (333-4452)  
Office Hours: Anytime (by appt. preferred..)

Lab TAs: Matt Ziemann  mrziema2@illinois.edu  
Office Hours: Mondays, 10-11 am  6105 Eng. Sci. Bldg. (or by appt.)  
Andrew Ferrante  aferran2@illinois.edu  
Office Hours: Tuesdays, 2-3 pm  6105 Eng. Sci. Bldg. (or by appt.)

Course Textbook(s): Physics 406 Lecture Notes (posted on P406 website – see below)  

Course Website:  http://courses.physics.illinois.edu/phys406/  
http://courses.physics.illinois.edu/phys193/  
All lecture notes, lab handouts, additional references, previous student final project reports  
(and much more) are available on the P406 (and P193) website(s). Please check these out!

Course Organization:

A. Lectures: Tuesdays & Thursdays, 12:30-1:50 pm, in the POM Lab (6105 ESB).  
   We will also have various demos using equipment in the POM Lab (6105 ESB).

B. Friday Labs: Lab1 @ 11:00 am -1:50 pm, Lab2 @ 2:00-4:50 pm in the POM Lab (6105 ESB)
   First part of the semester will consist of doing various simple/short experiments using  
   equipment and/or software in the lab. Will discuss this in the 1st lab session(s) this coming Friday.  
   Second part of semester, labs will be focused on student project(s) – more on this below.

C. Weekly Reading and Homework Assignments: HW due following week on Thursday, in class.
D. Take-Home Midterm Exam: Tuesday, March 7, 2017,  Due: Thursday, March 16, 2017
E. Midterm Project Oral Presentations: Brief! In class – Tues & Thurs, March 7 & 9, 2017
F. Final Project Oral Presentations: Brief! In class – Thurs, April 27 & Tues, May 2, 2017
G. Take-Home Final Exam: Tuesday, April 25, 2017,  Due: Friday, May 5, 2017
H. Final Project Written Report: Due: Friday, May 12, 2017

Reading Assignment For Week 12: Please read Physics 406 Lect. Notes XII – Parts I & II, and  
Lecture Notes on Time Domain vs. Frequency Domain Sound Field Quantities.

Homework Assignment For Week 12: As you do this week’s reading assignment: See Below.....

Final grade based on:
\[ \Sigma \text{HW’s: } 20\% \]
\[ \text{MT: } 15\% \]
\[ \text{FE: } 30\% \]
\[ \text{FP: } 35\% \text{ ( } = \Sigma \text{ mid-term & final oral presentations, final written report).} \]
Homework Assignment For Week 12: *n.b. this is HW # 9 !!!*

1.) Work through the derivation of the Instantaneous vs. Complex 3-D Vector Sound Intensity, *p. 4-8 of Physics 406 Lecture Notes “Time Domain vs. Frequency Domain Sound Field Quantities”.*

2.) Turn in your above derivation as **HW # 9**.