**Phy 130 SYLLABUS**

COURSE NAME: Wave Motion, Optics and Sound- Phy 130
DETAILS: 3 hour lectures, 3/2 lab sections
TERM: Fall

COURSE DESCRIPTION

This is a course about the physics of oscillating systems, an example of which is a the simple pendulum, and

the incredibly important phenomenon which arises from systems of connected oscillators: waves. Once we have

understood the physical properties of mechanical waves, such as sound waves, which rely on a physical medium

to propagate we shall consider electromagnetic waves. The different properties of EM waves, which being a

fundamental field require no medium to propagate, meant that the wave nature of light was unknown for centuries and we shall discuss basic geometric optics, where light is treated as rays, before moving on to show the wave nature of light through various interference phenomena.

REQUIRED MATERIAL

Fluids, Waves and Optics available for FREE in PDF form from the website. Hardcopies available

from the Bookstore or http://createspace.com/ using discount code 4G67ZSXM. [In general

any edition of any calculus-based 1st year physics text book is fine, so if you have a preferred

calculus-based textbook you can use that.]

LECTURE CONTENT

This course uses a new approach to teaching called blended learning which will follow a weekly structure.

* Online videos and reading will be assigned and after watching/reading the material you will need to complete a short online quiz before the start of the lectures for that week.
* The Monday and Wednesday lectures will build on and add new material to that covered by the videos including worked examples and some more challenging concepts.
* Online, tutorial questions will be assigned on Wednesday which are related to that week’s video and lecture material. These will have an online submission deadline of Saturday evening and will be graded by a combination of TA and computer. These questions can be attempted at home and the Friday lecture slot will be converted into a tutorial session with the instructor and TAs present to assist with solving the questions.

LAB CONTENT

No lab content found in syllabus.

* For general information and detailed lab and tutorial schedules see the Department of Physics

Undergraduate Lab (UGL) website.