

**PHYS OF HOW THINGS WORK**

*Phys 101*

University of South Carolina

Main Campus

Session: 01/09-04/23, 2012

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**Lecture Class:** PSC 002, 4:00 pm-5:15 pm, MW.  
HW-PSC 208, F 11:00-12:15 (see your individual class schedule)

**Professor:** T. Datta  
**Office:** PSC 501/502 (777-8104) 12:30 pm -1:30 pm MW & by appointment  
**Contact:** [datta@sc.edu](mailto:datta@sc.edu) (NB: grades will be discussed only in person but not by email/phone)

**Lecture class/notes:** Large parts of this course will be lectures from my personal notes.  
**Companion Book:** Physics: Concepts + Connections by Art Hobson; ISBN 978-0-4321-66113-5.

**Topics & course description:** The man made world is filled with gadgets. Most aspects of our lives happen as if by some magic. Each and every one of these gizmos is based on well understood logical principles. Physics of how things work is a beginner's course to understand the basic principles of science that gives us the marvelous technology of the modern life.

**Learning outcome & goals:** After successfully completing Phys 101 the student will learn how to critically analyze the basic principles and compute numerical answers. The goal is to learn basic physical principals by studying the workings of nature and from man made technology. This course will help you to anticipate and shape your future progress and become an educated consumer & citizen.

**Take Home work:** Charts, tables, graphs, figures, qualitative & quantitative problems via LONCAPA

**In class work:** Question & answers, working out examples and several pop quizzes.

**Tests & Exams:** Two 1hr tests & Final (ID s may be checked @ tests).

**Grading:** Effort is expected but not graded :Tests 50% + HW 30% & in-class work 20%

**Scale:** Standard 10 pt, viz., 100-90% = A, 89-80% = B, etc.

- Through out the session test dates will be chosen in class after open discussions.
- Attendance may be taken at random for record keeping. More than Three unexcused absences may cause loss of grade.
- Makeup tests only with written medical or family excuses.
- Requests for incomplete grade "I" has to be made in writing and

conditions negotiated should be written down and agree upon. Verbal will not be enough.

- Discussions of grades by person only, no email/electronic.
- Request for recommendation letters has to be supported with Students resume.

### **Tentative Spring 2012 Calendar for Phys 202**

**Notice: For all USC academic dates consult the registrar's website**

**<http://registrar.sc.edu/html/calendar5yr/5YrCalendar3.stm>**

**Test dates: Jan 23, Test#1; Feb 27, T#2; Apr.16, T#3**

**Final Exam: 2:00 pm, in class, 27 April 2012**

- Last W<sup>o</sup> date Jan 13
- Jan 16 no classes
- Last "WF" date Feb 27
- Mar 4-11 no classes
- Reading Day Apr 24

<b>Week</b>	<b>Chapters</b>	<b>Comments</b>
<b>Weeks # 1- 3</b>	Chs. 1-3	Up to mechanical things
<b>Weeks # 4- 5</b>	Chs. 4 & 5	Mech & fluids.
<b>Weeks # 6- 7</b>	Chs. 6 – 9	Hot things+
<b>Weeks # 8- 10</b>	Chs. 9-14	From wave to electronics
<b>Week # 11- 13</b>	Chs. 15-18	Nucl power to batteries