PHYSICS 124 Thermodynamics & Statistical Mechanics   Fall 2012

Prerequisite: Math 45, Phys 11A/B/C

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office Hours: M,F 12-1 PM (SQU 430) & F 1-2 PM (SQU 124).

OBJECTIVE. The objective of this course is to develop a conceptual understanding and a working knowledge of the bulk properties and behavior of matter, namely the laws of thermodynamics, and an understanding of these macroscopic laws in terms of microscopic dynamics using the methods of statistical mechanics.

TEXTBOOK. The primary textbook for this course is *Classical and Statistical Thermodynamics*, Ashley Carter (Prentice Hall). Other useful sources are *Thermal Physics,* D. Schroeder (Addison Wesley Longman), *Thermal Physics,* Baierlein (Cambridge), and *Statistical & Thermal Physics,* Reif (McGraw-Hill). An old but excellent textbook is *Heat & Thermodynamics, 6th ed.,* Zemansky and Dittman (McGraw-Hill). In addition, your 11B level textbook (e.g., Halliday, Resnick, and Walker) should serve as a background reference and should be consulted for basic thermodynamics.

HOMEWORK.   Homework is to be handed in by 3 PM on Fridays (except as noted). Late homework will count for no more than half credit if occasional and will not be accepted otherwise. As usual, working through the examples in the textbook and on the homework problems and thoroughly understanding them is a major component of the learning process. Do not copy solution manuals or any other source of solutions to the homework problems. However, do not hesitate to ask HP or others questions about the homework, or study and work with friends or in groups. In fact **working with classmates in groups can be an effective learning experience and is encouraged. But it is absolutely essential, and fully expected, that what you write up and submit is your own, individual work.** Needless to say, copying solutions (from any source, as stated above), or letting your partner do the thinking while you do the writing, defeats the very purpose of homework and constitutes academic dishonesty. You will only receive credit for your own work, based on your learning and understanding. Quizzes will deal with material similar to homework and will thus provide a measure of your understanding of it.

GRADE. There will be three midterm exams and a final. These will count for 20, 20, 20, and 28 percent. Homework and quizzes will count for 12%.

ACADEMIC DISHONESTY. "The faculty of the Department of Physics and Astronomy will not tolerate academic dishonesty. Falsification of data, copying, unauthorized collaboration, plagiarism, alteration of graded materials, or other actions (as described in, but not necessarily limited to the University State Policy Manual) will be promptly reported to the Office of Student Affairs. The offending student will be penalized on the assignment in question. Serious infractions will result in course failure and a recommendation for administrative sanctions."

Physics 124　　　Semester Schedule　　　Fall 2012

#	Week	chapter	Exams	Homework
1	8/27	1, 2		[1] 6,8,9 [2] 2,4,6
2	9/3	2, 3 (LD wk.)		[2] 11 [3] 4,5,6,8,11
3	9/10	4		[4] 1,2,3,6,8,10,11
4	9/17	5	1st Exam 9/21	[5] 1,2,4,5,6
5	9/24	6		[5] 7,10,13,14 [6] 1,2
6	10/1	7		[6] 3,7,10,13 [7] 1,3,5
7	10/8	7, 8		[7] 9,11,13,16 [8] 1,2,4
8	10/15	8	2nd Exam 10/19	[8] 5,6,8,10,12
9	10/22	11-1…		[11] 1,2,3,4,8,12
10	10/29	to 11-7, 12		[12] 2,3,4,7,9,10
11	11/5	12, 13		[13] 1,2,3,4,7
12	11/12	13 (VD wk.)		[13] 8,11,12
13	11/19	13 (TG wk.)	3rd Exam 11/21	
14	11/26	14		[14] 1,2,3,4
15	12/3	14		[14] 5,6,7
16	12/10		Fin. Ex.: Monday, Dec. 10, 10:15 AM-12:15 PM	

Additions to, or modifications of, the information in this syllabus may be necessary and will be communicated in class or otherwise as appropriate.