Syllabus: Physics 2325
Fundamentals of Physics I: Mechanics & Heat

Instructor Information:

Mrs. B. Rasmussen
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Office: FO 2.903
Email: bearas@utdallas.edu
Office Hours: 3:30 – 5:00 PM TR or by appointment
If no one shows up after 15 minutes I will feel free to do errands.

TA Information: TBA

Class Times:

Tuesday and Thursday, 2:00 – 3:15 pm,
FN2.102, Jan 10 – Apr 25
Final Exam will be 2 pm Apr 25
(please contact instructor as soon as possible about any conflicts)

Text:

University Physics, 11th edition, by Young & Freedman

Prerequisite:

1st semester Calculus

Grading:

Final grades are determined from a combination of the below items. **There will be no curving.**

Homework/Quizzes/Attendance	30%	90-100	A (A+, A, A-)
2 Exams	40%	80-89.9	B
Final Exam	30%	70-79.9	C
TOTAL	100%	60-69.9	D
		Below 60	F

Exams and Final Exam:

Valid picture ID must be on your desk during exams. These will be checked. Also calculators will be necessary for all exams. **Graphing calculators and programmable calculators will not be allowed in the exams**. A little scientific calculator that has trig functions can be obtained very inexpensively and should be all that is used on the exams.

All exams will be **closed book**. **Formulas will be provided with the exam**. You must know the concepts and vocabulary for the exams. **Calculators will be necessary** for all exams. **Exams will cover both in-class examples and homework**. **Exams must be done in ink.**

The final exam will be **cumulative** and will be based on the exams, homework, and any new material. The final exam will have all rules of a regular exam still in effect.

During the exam periodic information will be given on the overhead like time updates and any clarifications necessary. A verbal warning of 10 minutes remaining will be given. When time is up I will request everyone to put their pens down and pass their exams to the right and leave to the left.

Exams will consist of a conceptual section and a problem section. You will be responsible for all the reading assignments even if we do not discuss them in class. You must **show all your work especially equations** for the problems. No partial credit will be given on the conceptual section, but there will be for the problems based on the work shown including equations

Makeup exams will only be offered once at the end of the semester and only in the case of documented, extenuating circumstances. You can only make up one exam; so don't miss more than one.

Any question about an exam grade must be addressed by the next class day after handing out of the exam to the class. After that all grades are final.

Any student involved in cheating will be reported to the Dean of Students.

Homework:

Homework assignments are given for each chapter on the website http://www.masteringphysics.comJust go to the website and login as a student following the directions.

Be aware my course ID for this class is MPRASMUSSEN0008 and for your student ID use the first 3 letters of your first name + the first 3 letters of your last name. Make sure the name you give the website matches your name of record.

This homework **will** be graded. Late homework will be accepted **but with a penalty**. Do not get behind. No handwritten homework will be accepted.

Quizzes:

There will be short reading quizzes at the beginning of each class based on the chapter going with the lecture material. They are graded and part of your final grade. Therefore you must **read the chapters before the lecture**. You can keep a physics notebook of facts and formulas that you can use on the quizzes.

You can also go to the course under WebCT and download part of the lectures. Be careful these lectures are not complete and will not be enough to pass the class. **Come to Class**.

Class Objectives:

This is a list of what I expect you to know and be able to do by the end of this class.

1. Addition, scalar multiplication, and vector multiplication of vectors
2. Understand the components of linear motion (displacement, velocity, acceleration) especially motion under conditions of constant acceleration
3. Understand the different forces and work force problems
4. Understand Newton's laws of motion
5. Understand the different types of energy
6. Use the conservation of energy to work problems
7. Understand impulse, momentum and collisions
8. Understand center of mass and rigid bodies motion
9. Know rotational variables and the relationship between linear and rotational variables
10. Be able to solve problems using rotational and linear variables
11. Understand and work with equilibrium situations including the different types of equilibrium.
12. Understand simple harmonic motion and waves including their properties.
13. Understand fluids in motion and at rest.
14. Understand heat and heat transfer mechanisms
15. Understand the three laws of thermodynamics
16. Know the types of engines and refrigerators

Important Dates:

Last day to add 1/13
Census day, last day to drop w/o W 1/25
Last day to drop w/ WP or WF 3/16
Holiday 1/16

Class Schedule

Date	Lecture	Reading Assignment
1/10 T	L1 (Basic math)	1
1/12	L2 (Vectors, representations)	1
1/17 T	L3 (1D Motion)	2
1/19	L4 (2D Motion)	3
1/24 T	L5 (Circular & relative motion)	3
1/26	L6 (Forces)	4
1/31 T	L7 (Forces cont)	5
2/2	L8 (Work, kinetic energy)	6
2/7 T	Exam 1 (1-5)	
2/9	L9 (Potential energy, conservation)	7
2/14 T	L10 (Center of mass, momentum)	8
2/16	L11 (Impulse, collisions)	8
2/21 T	L12 (Rotation)	9
2/23	L13 (Torque, angular momentum)	10
2/28 T	L14 (Rolling, equilibrium)	10,11
3/2	L15 (Elasticity, gravity)	11,12
3/6-11	Spring Break	
3/14 T	Exam 2 (6-11)	
3/16	L16 (Gravity, static fluids)	12,14
3/21 T	L17 (Kinetic fluids, oscillations)	14
3/23	L18 (Simple harmonic motion)	13
3/28 T	L19 (Waves)	15
3/30	L20 (Sound)	16
4/4 T	L21 (Sound, temperature)	16,17
4/6	L22 (Heat absorption & transfer)	17
4/11 T	L23 (1st law of thermodynamics, kinetic theory)	18,19
4/13	L24 (Kinetic theory ,2nd law of thermodynamics)	20
4/18 T	L25 (Engines & Refrigerators)	20
4/20	Review	
4/25	Final @ 2pm	

T stands for a Tuesday.

For the reading assignment please look at the lecture notes and read appropriate sections covered. The reading assignment also includes the lecture notes on WebCT.

There will be reading quizzes at the beginning of each class on the total reading assignment.

Homework List Spring 06 Physics 2325

Due date	Chapter	Problems	
1/17	1	9,16,36,42,71,82,93	7
1/24	2 3	8,36,50,69,73 3,9,18,51,68	10
1/31	3 4	30,39,69,81 6,10,31,39,52	9
2/7	5	7,17,28,36,48,80,98	7
2/14	6 7	5,14,34,47,71 11,17,54,62,83	10
2/21	8	9,20,35,39,44,54,65,77,91	9
2/28	9 10	6,19,26,77,83 4,7,13,64,86	10
3/7	------	Spring Break	----
3/14	10 11	23,79 20,28,60,66,86	7
3/21	12 14	10,24,27,49,77,80 9,54,71	9
3/28	14 13	31,39,81 2,7,12,31,49,61	9
4/4	15 16	7,19,24,45 7,11,28,56	8
4/11	16 17	17,41,49 8,87,59,76,94,108	9
4/18	18 19 20	1,43 13,46,50,66 5,9,19,24,28,46	12