

Physics 201 – Classical Physics I  
(Classical Mechanics)  
Fall 2009

INSTRUCTOR: Dr. Vladimir Gasparyan  
OFFICE: Science III, room 306  
OFFICE HOURS: Mon-Th 08:00 - 09:30 and by appointment.  
PHONE: 654 6004  
E-MAIL: vgasparyan@csub.edu  
CLASS: M, W 09:30-10:50, Tu, Th 09:30-12:00 and 12:20-14:50  
CLASSROOM: Science II, room 343 and Science II, room 285

TEXTBOOK: College Physics, by Raymond A. Serway, C. Vuille and J. Faughn. Eighth /or Seventh Edition. We will cover chapters 1 through 8.

HOMEWORK. Homework will assigned, collected and graded (Extra 5%).

LABORATORY REPORTS. Lab work will usually be completed within one lab period with lab reports due by the end of period. Lab reports will be graded but note that lab grades do not for much towards your final grade.

Final Exam. 25 NOVEMBER (From 8:00 to 10:30): Science II, room 343

DATES TO REMEMBER:

02 October. Last day to withdraw without a “W” being recorded.

30 October. Last day to withdraw from classes for a serious and compelling reason.

GRADING

Homework	5%.
Laboratory work	20%
Quiz 1	15%
Quiz 2	15%
Quiz 3	15%
Final exam	35%

APPROXIMATE FINAL GRADE RANGES:

A:	91-105%
B:	76-90%
C:	61-75%
D:	51-60%
F:	<=50%

### Class Schedule

Meeting Chapter

1. #1
2. #2
3. #2
4. #2
5. #2
6. Lab1
7. #3
8. #3
9. #3
10. Lab2
11. #4
12. Quiz 1 (Chapters 1-3)
13. #4
14. Lab3
15. #4
16. #4
  
17. #5
18. Lab4
19. #5
20. #5
21. #5
22. Lab5
23. #6
24. # Quiz 2 (Chapters 4-5)
25. #6
26. Lab 6

Meeting Chapter

26. #6
27. #6
28. #7
29. #7
30. #7
31. #7
32. #7
33. #8
34. #8
35. Quiz 3 (Chapters 6-7)
36. #8
37. #8
38. #8

Final Exam 25 NOVEMBER (8:00 –10:30):  
Science II, room 343



# Schedule

This schedule is only tentative and is subject to change with little or no warning. Note that exam dates are given. The final exam will be comprehensive. Note that the precise reading assignments are on the next page.

<u>Date</u>	<u>Topic</u>	<u>Date</u>	<u>Lab</u>
9/14	Ch. 1 Units	9/15	Math Diagnostic Test
9/16	Ch. 2 $x, v, a, t$	9/17	Lab: Free-fall acceleration
9/21	Ch. 2 Constant Acceleration	9/22	Review
9/23	<b>Ch. 1 &amp; 2 Exam</b>	9/24	<b>RQ</b> Dimensional Analysis Lab
9/28	Ch. 3 Vectors	9/29	<b>RQ</b> Vector Lab
9/30	Ch. 4 Projectile Motion	10/1	Lab: Sci. Method, Pendulum
10/5	Ch. 4 Circular Motion	10/6	Review
10/7	<b>Ch. 3 &amp; 4 Exam</b>	10/8	Lab: Linear Motion & Analysis
10/12	Ch. 5 Force & Newton's Laws	10/13	Lab: Inclined Accelerations
10/14	Ch. 5 Weight, N3, Friction	10/15	Lab: Rotational Motion
10/19	Ch. 6 Circular Motion	10/20	Review
10/21	<b>Ch. 5 &amp; 6 Exam</b>	10/22	Estimation/Order of Magnitude
10/26	Ch. 7 Forces and Work	10/27	Lab: Static Equilibrium
10/28	Ch. 7 Work and Energy	10/29	Lab: Air Track (?)
11/2	Ch. 8 Conservation of Energy	11/3	Review
11/4	<b>Ch. 7 &amp; 8 Exam</b>	11/5	Lab: Projectile Prediction
11/9	Ch. 9 Momentum	11/10	Lab: Collisions in 2-D
11/11	<b>Holiday</b>	11/12	<b>RQ</b> Lab: You Tube Physics
11/16	Ch. 10 Rotational Motion	11/17	Lab: Orbit Graphing
11/18	Ch. 13 Gravity	11/19	Review
11/25	<b>Final Exam 2–4:30</b>		

**RQ** means Reading Quiz, see the final page for the assigned reading.

**Homework and textbook coverage:**For exam 1 on 9/23

Ch. 1 – Q 2, 3, 6, 8    P 10, 33, 34

Ch. 1: All sections covered (3 and 5 will be covered in lab).

Ch. 2 – Q 2, 3, 5, 6, 10    P 2, 6, 8(d), 13, 16, 18(c), 21, 23, 28, 41, 51

Ch. 2: Sections 1, 2, 3, 4, 5, 6, 7 (all but section 8).

For exam 2 on 10/7

Ch. 3 – Q 9    P 4, 16, 18, 22, 37, 39, 52

Ch. 3: All sections covered.

Ch. 4 – Q 2, 7, 8, 9, 10, 14    P 2, 13, 17, 20, 26, 29, 45, 51, 57

Ch. 4: Sections 1, 2, 3, 4, 5 (all but section 6).

For exam 3 on 10/21

Ch. 5 – Q 2, 5, 16, 18, 22, 26, 32    P 4, 6, 18, 30, 34, 35, 40

Ch. 5: All sections covered.

Ch. 6 – Q 13, 15    P 7, 21, 27, 40

Ch. 6: All sections covered.

For exam 4 on 11/4

Ch. 7 – Q 1, 3, 8, 10, 13, 21    P 2, 8, 18, 31, 38

Ch. 7: Sections 1, 2, 3, 4, 5, 6, 7 (8 may be skipped, 9 will be skipped).

Ch. 8 – Q 4, 11, 13    P 5, 20, 21, 23, 33

Ch. 8: All sections covered.

For the final exam on 11/25

Ch. 9 – Q 8, 9    P 4, 8, 13, 15, 19 (will be an elastic collision)

Ch. 9: Sections 1, 2, 3 (we will skip sections 4, 5, 6, 7, 8).

Ch. 10 – Q 1, 17    P 1, 6, 14, 22, 33, 34 (get  $I$  from table 10.2)

Ch. 10: Sections 1, 2, 3, 4, 5, 6, 7 (all but sections 8 and 9).

Ch. 13 – Q 1, 2, 16    P 5, 9, 15, 17, 22(b)

Ch. 13: Sections 1, 2, 3, 4 (all but sections 5 and 6).

**Reading Quizzes:**

For the lab on 9/24: Sections 1.3, 1.4, and table 1.4

For the lab on 9/29: Read all of chapter 3.

For the lab on 11/12:

There is no reading quiz for this lab, instead this lab must be brought to class completed. You are to observe a YouTube video (or a video from any other source) and write a report on the physics. You might measure the acceleration of something or estimate the force of impact, details about that assignment will be provided during the quarter.

Students who show their video and describe their analysis in class will receive extra credit, students in class to watch the presentations will also receive some extra credit.

# Physics 322A Thermal Physics

# Fall 2009 Course Information

Instructor: Dr. Jeff Lewis  
Office: Science III, 301  
Office Hours: MW 10–11:30  
MW 2–3  
Phone: 654-3158  
E-mail: jlewis@csub.edu

Class Times: MW 3:10–4:40 (5:15) Science 285

Text: Daniel V. Schroeder  
*Thermal Physics*  
The plan is to cover most of chapters 1-4  
See following schedule

Grading:	HW/Quizzes	65%	5 HW/quizzes
	Attendance	5%	
	Final Exam	30%	Wed. Nov. 25, 5–7:30

Homework: Chapter 1: 1.2, 1.4, 1.7, 1.12 (Hint: Molecules are typically a few angstroms in size), 1.14, 1.18, 1.19, 1.25, 1.26, 1.28, 1.32, 1.34

Chapter 1: 1.37, 1.38, 1.41, 1.45, 1.47, 1.50, 1.54

Chapter 2: 2.1, 2.3, 2.5bfg, 2.6

Chapter 2: 2.9, 2.10, 2.13, 2.15, 2.17, 2.18, 2.21, 2.22, 2.27, 2.28, 2.29, 2.31, 2.33, 2.34 (Hint: Use eqn 1.31), 2.36, 2.42

Chapter 3: 3.1, 3.3, 3.5, 3.8, 3.10, 3.14, 3.16, 3.31, 3.33 (Hint: Use 3.46 and 3.14), 3.35, 3.37b

Chapter 4: 4.2, 4.4, 4.7, 4.8, 4.10, 4.13, 4.16, 4.21a, 4.24,  
4.26

*"One of the secrets of doing physics is to keep in mind what you don't know. The trick is to get from what you know, to what you want to know, without going through what you don't know."* – Lewis Carroll Epstein

Schedule:	<u>Date</u>	<u>Section(s)</u>	<u>Topic</u>
	9/14	1.1, 1.2	Equilibrium, Ideal Gas
	9/16	1.2, 1.3	Kinetic Theory, Equipartition Thm
	9/21	1.4, 1.5	Heat, Work
	9/23	1.1-1.4	<b>HW/Quiz</b>
	9/28	1.5, 1.6	Adiabatic Proc, Heat Capacities
	9/30	1.6	Latent Heat, Enthalpy
	10/5	2.1, 2.2	Statistics
	10/7	1.5-2.2	<b>HW/Quiz</b>
	10/12	2.3, 2.4	Interacting Systems
	10/14	2.5	Ideal Gas
	10/19	2.6	Entropy
	10/21	2.3-2.6	<b>HW/Quiz</b>
	10/26	3.1	Temperature and Entropy
	10/28	3.2	Heat, Entropy, Temperature
	11/2	3.4, 3.5	Pressure, Chemical Potential
	11/4	3.1-3.5	<b>HW/Quiz</b>
	11/9	4.1	Heat Engines, Carnot Cycle
	11/11	—	<b>Holiday</b>
	11/16	4.2	Refrigerators
	11/18	4.3	Real heat engines
	11/25	4.1-4.3	<b>HW Set 4 Due at Final Exam</b>
	11/25	Ch. 1-4	<b>Final Exam, 5-7:30</b>

*"Algebra is a wonderful invention. It enables fools to do physics, without understanding."* – Lewis Carroll Epstein

HW/Quizzes: On a HW/Quiz day, one of the following will occur:

- Some or all homework due
- Pop quiz
- Group problem or lab or project
- Teamwork exercise
- Homework problem presentation
- Combination of above

The type of assignment required will **not** be announced in advance. You should bring your text, calculator, etc. to class along with all your finished homework.

Note: Because of the lost day to the holiday, HW/Quiz 5 will be to turn in the homework by the final exam.

Attendance: Because the instructor has an inflated belief in the value of his lectures, attendance of lectures is required.

For every two lectures missed, one point (up to 5 total) is deducted from your Attendance score.

Final Exam: Open book, open note.

Wednesday, November 25, 5-7:30 PM

Comprehensive

*"Physics is like sex. It has practical applications. But that is not the main reason you do it."* – Richard Feynman

Physics 323 A -- Electricity and Magnetism I  
Syllabus  
Fall 2009

Instructor: Dr. Jorge Talamantes  
Science III, room 305  
phone: 654.2335  
fax: 654.2693

Office hours: See <http://www.csub.edu/~jtalaman>

Meeting times: T, Th 3:10 - 5:15 in room 283 (Science II)

Furlough days: I will be unavailable during furlough days. Students are responsible for those days' reading assignment.

Course Text: Introduction to Electrodynamics, 3rd Edition, by David Griffiths. Prentice Hall, New Jersey (1999).

Reading: The assigned reading (see the Lecture Schedule) is absolutely required.

Exams: There will be four chapter quizzes (see the Lecture Schedule).

Final: This exam will be comprehensive.

Attendance: Attendance will not be checked, but it is definitely required.

Dates to keep| 10/02/09 - last day to withdraw without a "W".  
in mind: | 10/30/09 - last day to withdraw for serious and  
compelling reason.  
12/01/09 - Grades available.

Final grade | Quizzes (15% each): 60%  
determination| Final: 40%

This class is not graded on a curve. The following relation will be used for assigning a final grade:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
00-59%	F

Behavior: Anyone found cheating will automatically get an F in the course.

\*\*\* CELL PHONES MUST BE TURNED OFF \*\*\*

\*\*\* LAPTOPS MUST BE TURN OFF DURING LECTURE \*\*\*

## Lecture Schedule

Section numbers in the lectures refer to Griffiths.

Date Activity and Reading Assignment

### \*\* WEEK 1 \*\*

9/15/09 Introduction to the course;  
Chapter 1 -- Vector Analysis  
1.1 Vector Algebra  
9/17 1.2 Differential Calculus

### \*\* WEEK 2 \*\*

9/22 1.3 Integral calculus  
9/24 1.4 Curvilinear coordinates  
1.5 The Dirac delta function  
9/25 Faculty furlough day

### \*\* WEEK 3 \*\*

9/29 1.6 The theory of vector fields  
Chapter 2 -- Electrostatics  
2.1 The electric field  
10/01 Quiz 1 -- Chapter 1  
10/02 \*\*\* LAST DAY TO WITHDRAW W/O "W" \*\*\*

### \*\* WEEK 4 \*\*

10/06 2.2 Divergence and curl of electrostatic fields  
10/08 2.3 Electric potential

### \*\* WEEK 5 \*\*

10/13 2.4 Work and energy in electrostatics  
2.5 Conductors  
10/15 Chapter 3 -- Special techniques  
3.1 Laplace's equation  
Faculty furlough day

### \*\* WEEK 6 \*\*

10/19 Faculty furlough day  
10/20 3.2 The method of images  
10/22 Quiz 2 -- Chapter 2

**\*\* WEEK 7 \*\***

10/27 3.3 Separation of variables

10/29 3.4 Multipole expansion

10/30 \*\*\* LAST DAY TO WITHDRAW FOR A SERIOUS AND COMPELLING REASON \*\*\*

**\*\* WEEK 8 \*\***

11/03 Chapter 4: Electric fields in matter

4.1 Polarization

11/04 Faculty furlough day

11/05 4.2 The field of a polarized object

**\*\* WEEK 9 \*\***

11/10 Quiz 3 -- Chapter 3

11/11 Holiday -- Veterans Day. No classes.

11/12 4.3 The electric displacement

**\*\* WEEK 10 \*\***

11/17 4.4 Linear dielectrics

Faculty furlough day

11/19 Quiz 4 -- Chapter 4

11/24 Final exam (comprehensive) 5 - 7:30.

12/01 Grades become available