

College Physics 2 (806-144) Spring 2009

Course Number: 30371

Meeting Times: T and Th 8:30 – 10:20

Room: D111

Course Description:

College Physics 2 presents the applications and theory of basic physics principles. Emphasis is placed on problem solving, laboratory investigation and applications. Topics include periodic motion, wave motion, optics, magnetism, static electricity, DC electricity, AC electricity and electromagnetism.

Prerequisites:

College Technical Math 1 (804-115) or College Technical Math 1A (804-113) or corequisite College Technical Math 1 (804-115) or instructor approval.

Course Competencies:

1. Demonstrate safety procedures and protocols in the laboratory.
2. Apply concepts of simple harmonic motion.
3. Evaluate wave properties.
4. Analyze geometric optics.
5. Analyze wave optics.
6. Apply principles of electrostatics.
7. Apply principles of electric current.
8. Analyze the magnetic field.

Instructor Information:

Name: Henry Merrill

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Office: D105

Office hours: M _____, T _____, Th _____, F _____ –or by appointment

Grading Policy:

The grade for the course will be based on the students' performance on **projects**, (lab reports, problem solving worksheets, article reviews) **unit tests**, and a **final exam**.

Projects: Projects will account for 1/3 of the final course grade.

Labs: Lab grades are determined from either a group or individual report and should include observations, data collection, data analysis and summary. Labs may be worth from 10 to 15 points. Lab reports are due at the beginning of the next class period. Late assignments will lose 10%/day. Assignments more than 1 week late will not receive credit. At the end of the semester a low lab grade may be dropped.

Problem Solving: The individual problem solving worksheets are worth 15 points. (5 problems @ 3 points each) Problem solving worksheets are due the day of the unit test. Late assignments will lose 10%/day. Assignments more than 1 week late will not receive credit.

Article Reviews: See the attachment for details about the writing of article reviews. Reviews will be graded on a pass/fail basis. Four acceptable reviews must be done for an A, three for a B, 2 for a C and 1 for a D.

Unit Tests: Unit tests will account for 1/3 of the final course grade.

Unit tests consist of matching, multiple choice and problem solving and are worth a total of 50 points. One retake of a unit test may be taken with a maximum possible score on the retake of 35 (70%). Retakes must be taken within one week of the results being reported. *If a student is absent on the day of a test he/she must contact the instructor. The test must be taken **within one week of the original test date**.*

Final Exam: the final exam will account for 1/3 of the final course grade.

The final exam is a combination of material covered on the unit tests from throughout the course. It is worth 100 points.

The letter grade will be determined from the weighted percentage (33⅓ % from projects, 33⅓ % from unit tests, and 33⅓ % from the final exam.) using the following scale:

90 - 100% (w/ 4 reviews)	- A
80 - 89% (w/ 3 reviews)	- B
70 - 79% (w/ 2 reviews)	- C
60 - 69% (w/ 1 review)	- D
< 60% (or 0 reviews)	- F

Attendance Policy:

The format of this course is designed for students to attend and participate in the traditional classroom for lectures, problem solving/discussion, labs and testing. The incorporation of blackboard and other internet resources will provide alternatives for attaining information from the lecture materials. Missing lecture and/or problem solving/discussion periods will not directly affect the grade but will make it more challenging for the student to receive immediate feedback from the instructor and fellow students. Missing a scheduled lab will result in a grade of zero (0) for that report and cannot be made up. Missing a scheduled test requires the student to contact the instructor to schedule a make-up. Make-up tests must be completed within one (1) week from the originally scheduled date. Tests not completed within this time frame will receive a maximum grade of 70%. Tests not completed within two (2) weeks from the original date will receive a grade of zero (0).

Items Needed for Class Each Day:

1. Textbook (**Physics 7th Ed. – Tippens**)& Curriculum Manual
2. Scientific calculator
3. Notebook and pencil(s)

College Physics 2
Fox Valley Technical College
Science Department

Course Activities

Unit	Chapter(s) <i>Physics 7th Ed. - Tippens</i>	Labs	Problem Solving	Unit Tests
Measurement	Chapters 1, 2, & 3	<ul style="list-style-type: none"> ● Problem Solving ● Technical Measurement 	<ul style="list-style-type: none"> ● Measurement Conversions 	Unit 1 Test
Waves	Chapters 14, 21, & 22	<ul style="list-style-type: none"> ● Harmonic Motion ● Speed of Sound 	<ul style="list-style-type: none"> ● Simple Harmonic Motion ● Wave Characteristics / Sound 	Unit 2 Test
Electricity	Chapters 23 - 28	<ul style="list-style-type: none"> ● Electric Charge ● Potential ● Resistance ● Electric Circuits 	<ul style="list-style-type: none"> ● Electric Force / Potential ● Ohm's Law ● Parallel & Series Circuits 	Unit 3 Test
Magnetism	Chapters 29 - 32	<ul style="list-style-type: none"> ● Magnetic Fields ● Solenoids ● Motors 	<ul style="list-style-type: none"> ● Magnetic Force ● Magnetic Field ● Transformers 	Unit 4 Test
Optics	Chapters 33 - 36	<ul style="list-style-type: none"> ● Color ● Light Intensity ● Refraction 	<ul style="list-style-type: none"> ● EM Spectrum / Light Intensity ● Reflection ● Refraction 	Unit 5 Test
				FINAL EXAM

College Physics 2
Spring 2009

Week	Date	Tuesday (Lecture/Problem Solving)	Date	Thursday (Lab)
1	1/6	Classes begin 1/8	1/8	Introduction Problem Solving Lab
2	1/13	Ch. 3– Measurement	1/15	Measurement Lab
3	1/20	NO CLASS Labor Day	1/22	Review / Problem Solving UNIT TEST 1
4	1/27	Ch. 14– Simple Harmonic Motion	1/29	Harmonic Motion Lab
5	2/3	Ch. 21 – Waves Ch.22 – Sound	2/5	Speed of Sound Lab
6	2/10	Review / Problem Solving	2/12	UNIT TEST 2
7	2/17	Ch. 23 – Electric Force Ch. 24 – Electric Field	2/19	Electric Charge Lab
8	2/24	Ch. 25 – Electric Potential	2/26	Resistance Lab
9	3/3	Ch. 27 – Current and Resistance	3/5	Electric Circuits Lab
10	3/17	Ch. 28 – DC Circuits	3/19	UNIT TEST 3
11	3/24	Magnetic Field Lab	3/26	Ch. 29 – Magnetism
12	3/31	Ch. 30 – Force and Torque	4/2	Solenoid Lab
13	4/7	Ch. 31 – EM Induction Ch. 32 – AC Circuits	4/9	Electric Motors Lab
14	4/14	UNIT TEST 4	4/16	Color Lab
15	4/21	Ch. 33 – Light	4/23	Light Intensity Lab
16	4/28	Ch. 34 – Reflection	4/30	Optics Lab
17	5/5	Ch. 35 – Refraction Ch. 36 – Lenses	5/7	UNIT TEST 5
18	5/12	Review	5/14	FINAL