College Physics 1(806-143)
Spring 2009

Course Number:	30370	30284	30302
Meeting Times:	M/W 8:30 – 10:20	T/W 1:30 – 3:20	T/Th 1:30 – 3:20
Room:	D111(Appleton)	AC104A	AC104A

Course Description:

College Physics 1 presents the applications and theory of basic physics principles. Emphasis is placed on problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinematics, dynamics, work, energy, power, temperature, and heat.

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. Solve problems involving unit conversions and unit analysis.
3. Apply the concepts of kinematics.
4. Apply the laws of dynamics.
5. Apply the concepts of work, energy and power.
6. Apply the principle of conservation of momentum.
7. Assess the thermal properties of matter.
8. Apply the principles of heat transfer.
9. Analyze thermodynamics of a system.

Instructor Information:

Name: **Henry Merrill**

Phone: **831-4323**

e-mail: **merrill@fvtc.edu**

Office: D105

Office hours: M – _____ , T – _____ , W – _____ , Th - _____
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:

Students completing College Physics 1 as part of the Aviation Maintenance or Aircraft Electronics Programs will be required to follow the attendance policy as stated in the Fox Valley Technical College Part 147 Supplement Manual page 30 of 36.

It is the students' responsibility to contact the instructor as soon as possible after missing a day of class to receive any printed handouts, get an overview of the material covered or to set-up a time to make-up a quiz. Detailed notes are the responsibility of the student. If a lab is missed the group grade for the student will be zero. 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). Exceeding four (4) absences may cause the student to be withdrawn from the course.

Items Needed for Class Each Day:

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

College Physics 1
Fox Valley Technical College
Science Department

Course Activities

Unit	Chapter(s) Physics 7th Ed.– Tippens	Labs	Problem Solving	Unit Tests
Measurement	Chapters 1, 2 & 3	• Problem Solving • Vector Addition	• Measurement Conversions • Adding Vectors	Unit 1 Test
Motion	Chapters 6 & 11	• Graph Matching • Graphing Motion	• Uniformly Accelerated Motion • Projectile Motion	Unit 2 Test
Force Analysis	Chapters 4, 5, 7 & 10	• Friction • 2nd Law	• Translational Equilibrium • Rotational Equilibrium • Newton's 2nd Law	Unit 3 Test
Work, Energy & Power	Chapters 8, 9 & 12	• Impulse and Momentum • Simple Machines	• Work, Energy & Power • Mechanical Advantage & Efficiency • Impulse and Momentum	Unit 4 Test
Heat	Chapters 16, 17, 18 & 19	• Linear Expansion • Specific Heat • Gas Laws	• Expansion • Heat • Thermal Properties	Unit 5 Test FINAL EXAM

College Physics 1
Spring 2009

The dates shown are for class #30370. Students in class #30284 and #30302 will have the same weekly schedule with the dates corresponding to the Tuesday/Wednesday or Tuesday/Thursday schedule.

Week	Date	Lecture/Problem Solving	Date	Lab
1	1/5	Classes begin 1/8	1/7	
2	1/12	Introduction	1/14	Problem Solving Lab
3	1/19	Ch.3 –Measurement	1/21	Vector Addition Lab
4	1/26	Ch.3 -Vectors	1/28	Problem Solving
6	2/2	UNIT TEST 1	2/4	Graph Matching Lab
5	2/9	Ch.6 – Motion	2/11	Graphing Motion Lab
7	2/16	Ch.11 – Rotational Motion	2/18	Problem Solving
8	2/23	UNIT TEST 2	2/25	Ch.4 – Equilibrium
9	3/2	Ch.7and 10 – 2^{nd} law	3/ 4	Friction Lab
10	3/16	Ch.5 – Torque	3/18	2^{nd} law Lab
11	3/23	Problem Solving	3/25	UNIT TEST 3
12	3/30	Ch.8 -Work, Energy & Power	4/1	Ch.9 – Impulse and Momentum
13	4/6	Ch.12–Mech. Advantage and Efficiency	4/8	Simple Machines Lab
14	4/13	Problem Solving	4/15	UNIT TEST 4
15	4/20	Ch.16 -Expansion Chs.17/18 – Heat Tansfer	4/22	Expansion Lab
16	4/27	Ch. 19 – Thermal Properties	4/29	Gas Laws Lab
17	5/4	Problem Solving	5/6	UNIT TEST 5
18	5/11	Review	5/13	FINAL