A possible syllabus for the proposed WTCS GENERAL PHYSICS 1
(I have used Fall 2004 as a template, as the WWTC 2005-06 calendar is not yet available.)

806-### Section 01 **Fall 2004**

GENERAL PHYSICS I

Instructor: Dr. Michael LeDocq
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Office Hours: To be determined, and by appointment.

Text: *College Physics*, J. Wilson and A. Buffa, 5th ed., Prentice-Hall, Inc., 2003.

Required Materials: In addition to the textbook, you are required to have a scientific calculator. Other suggested items include a notebook or 3-ring binder, a ruler or straightedge, ¼" graph paper, folder, pencils, etc.

Course Content: This course is an algebra- and trigonometry-based introductory college physics course. Upon completion of this course the student should understand and be able to apply the ideas and concepts of physics as listed in the competencies of the WTCS Course Outcome Summary for General Physics 1. These competencies are:

1. Solve problems involving unit conversion and unit analysis.
2. Perform vector analysis.
3. Apply the laws of translational kinematics.
4. Apply the laws of translational dynamics.
5. Solve problems using concepts of work, energy, and power.
6. Solve problems based on the principle of conservation of momentum.
7. Apply the laws of rotational kinematics.
8. Apply the laws of rotational dynamics.
9. Solve problems involving properties of solids and fluids.
10. Solve problems involving heat and temperature.
11. Solve problems involving simple harmonic motion and waves.

Course Structure: General Physics I will meet for 5 hours per week, 3 hours lecture and 2 hours laboratory/lecture. The course will consist of 12 labs, 4 quizzes and 4 exams. There will be **no make-up** labs or quizzes. Your lowest lab score will not be used in determining your final grade.

Homework: Homework will be collected at the instructor's discretion. If homework is collected it is due at the beginning of the next class session or as specified. Each homework assignment will be graded as *accepted complete* (10 points), *accepted partial* (5 points), or *not accepted* (0 points). No late homework will be accepted. Your overall homework score will be the percentage of possible points. This overall homework score will count as 10% of the final course score.

Quizzes: Four (4) quizzes will be given during the course. Each quiz is worth 20 points. The quizzes will be closed book. One 4 × 6 inch note card can be used during each quiz. No make-up quizzes will be given except at my discretion and by special arrangement with me. Your overall quiz score will be the percentage of possible quiz points. This overall quiz score will count as 20% of the final course score.

Laboratories: There will be ten laboratory experiments conducted during this course. Each experiment requires a short written report (described below) that is worth 10 points. **No make-up labs will be given.** Your lowest laboratory grade will be dropped. Your overall lab score will be the percentage of possible lab points and will count as 20% of the final course score.

Exams: There will be four in-class exams. These exams are mandatory. The exams will be closed book. One 8½ × 11 inch note sheet can be used during each exam. Each exam will be worth 100 points. Your overall exam score will be the percentage of possible exam points. This overall exam score will count as 50% of the final course score.

Cell phones or other electronic communication devices cannot be used during an exam. Their use will result in immediate failure of that exam.

There may be cases in which it is absolutely necessary for you to miss an exam. In such a case, an exam may be taken early if the following conditions are met:

1.) It is necessary for you to miss an exam (my discretion), and
2.) You must notify me ahead of time, not the day on which you plan to take the makeup exam. This can be done in person, by phone, or by leaving a message.

Makeup exams given after a regularly scheduled exam will only be given in dire emergencies. If the procedures for making up a missed exam are not followed, that exam will be given a score of zero.

Grading Policy: The following grading scale will be used:

90 – 100%	A
80 – 89.9%	B
70 – 79.9%	C
60 – 69.9%	D
0 – 59.9%	F

I reserve the right to adjust final grades by as much as 5% according to attendance, class participation, work ethic, commitment to the class, etc.

Attendance: Attendance will be taken and recorded each class period. Two missed class hours will be accepted without penalty. Each class hour missed after these will result in five points being removed from one exam score. Students may be dropped from the course for lack of attendance if they miss six or more class hours.

General Policies and Expectations: A few other considerations will make for a more pleasant learning environment in lecture and lab. No cell phone calls will be allowed in class. If you have a cell phone, please set it to vibrate while attending lecture or lab. Any cell phone conversation conducted during class time will result in a deduction of 5 points from an exam grade. Also, please do not bring children to class. If you are having difficulty finding childcare for one or more of the class meeting times, please see me as soon as possible to discuss possible arrangements. All students are expected to behave in a manner consistent with the WWTC Student Code of Conduct.

Outside Assistance: You are encouraged to see me during my office hours or contact me at any time by e-mail at ledocqm@wwtc.edu or by telephone at 608-789-4745 to set up an appointment. You can receive additional tutorial help in the Academic Success Center (Coleman 227) and in the Math Lab (Coleman 229). Daytime hours for these services are typically 8:05 a.m. – 3:30 p.m. Monday through Friday. Check the hours posted by each door for exact hours of operation.

Anyone who needs support services or reasonable accommodations for a disability, including (but certainly not limited to) accessibility for lab, lecture, exams, quizzes; note takers; sign language interpreters, etc. please see me and also the staff in Disability Services, located in ARC 154 (785-9875) within ten days to arrange any appropriate accommodations.

Tentative Schedule
806-### (General Physics 1)
Fall 2004

Week	Topics	Text Sections
1	Measurement, Units, Conversions, Dimensional Analysis, Sig. Figs., Kinematics	1.1 – 1.7
2	1-Dimensional Motion (distance, speed, displacement, velocity, acceleration)	2.1 – 2.5
3	**Quiz 1**, 2-Dimensional Motion	3.1 – 3.4
4	Newton's Laws of Motion, Free body diagrams, **Exam 1 (Chap. 1-3)**	4.1 – 4.3
5	Newton's Laws of Motion, Friction	4.4 – 4.6
6	Work and Energy, Conservation of Energy, Power	5.1 – 5.4
7	Power, Conservation of Momentum, **Quiz 2**	5.4, 6.1-6.4
8	Center of Mass, Jet Propulsion, Rotational Kinematics	6.5 – 6.6, 7.1-7.2
9	Centripetal Force, Angular Acceleration; **Exam 2 (Chap. 4-6)**	7.2 – 7.4
10	Torque; Rotational Dynamics, Work, and Kinetic Energy; Angular Momentum; Simple Machines	8.1 – 8.5, Handouts
11	Elastic Moduli, Pressure, Pascal's Principle, Archimedes' Principle, Continuity and Bernoulli's Equations, (as time permits: Viscosity, Surface Tension, Poiseuille Flow), **Quiz 3**	9.1 – 9.5
12	Temperature (Celsius, Fahrenheit, Kelvin and Rankine scales), Heat, Gas Laws, Thermal Expansion, Kinetic Theory of Gases	10.1 – 10.5
13	Specific Heat, Calorimetry, Heat Transfer, Thermodynamics, **Exam 3 (Chap. 7-9)**	11.1 – 11.4, 12.1 – 12.2
14	Simple Harmonic Motion, **Thanksgiving Break**	13.1 – 13.2
15	Wave Motion, Wave Properties, Interference and Resonance, Sound, **Quiz 4**	13.3 – 13.5, 14.1 – 14.2
16	Speed of Sound, Sound Intensity Level, Doppler Effect	14.2 – 14.6
17	Course Evaluation, Review, **Exam 4 (Chap. 10-14)**	

Tentative Lab, Quiz and Exam Schedules
806-### (General Physics 1)
Fall 2004

(I will assume one-hour lectures on MWF and a two-hour lab on Tuesdays.
I have not yet made my final determination if these are the 11 labs I will perform.)

Lab Schedule

Lab	Wk	Date	Title
1	1	Aug. 24	Traditional, Computer and Video Data Collection Methods
2	2	Aug. 31	One-dimensional Kinematics
3	3	Sep. 7	Projectile Motion
4	5	Sep. 21	Newton's 2nd Law (F, m, a)
5	6	Sep. 28	Work and Energy
6	10	Oct. 26	Torque and Equilibrium
7	11	Nov. 2	Simple Machines
8	12	Nov. 9	Gas Laws and Thermal Expansion
9	14	Nov. 23	Moment of Inertia
10	15	Nov. 30	Simple Harmonic Motion
11	16	Dec. 7	Speed of Sound

Quiz Schedule

Quiz	Week	Date
1	3	Sep. 8
2	7	Oct. 8
3	11	Nov. 5
4	15	Dec. 3

Exam Schedule

Exam	Week	Date
1	4	Sep. 14
2	9	Oct. 18
3	13	Nov. 16
4	17	Dec 15

Low-Carb Laboratory Report Format (General Physics I)
M. LeDocq

A laboratory report will be written for each experiment performed for this class. The purpose of the laboratory reports is to show an understanding of the reasons for performing each experiment, to provide a record of the collected data, to present calculated results, to compare those results to expected answers, and to provide discussions of the quality of the results and conclusions that can be drawn from the data and results. The lab report should be typed or computer generated. The lab reports should consist of a title page and the following **required** sections:

Title Page: The title page should list (in the following order) the experiment title, your name, the course name, the due date of the report and finally your lab partners.

PURPOSE: The purpose section will be composed one complete paragraph of 2-5 sentences. This paragraph should explain why the experiment was performed, what concepts were investigated and what physical laws/effects were tested. The paragraph will be written as full sentences using correct spelling and grammar.

DATA & RESULTS: As often as possible, this section will consist of a table that I will generate and will be filled in by every student. There will be columns for each measured quantity and for each required calculated result.

SUMMARY & QUESTIONS: This section will consist of approximately 2-5 questions designed to help each student evaluate the accuracy of the experimental results, think about the errors inherent in all experiments and draw appropriate conclusions about the end results. The answers will be written as full sentences using correct spelling and grammar.

Grading Template

Section		Pt. Subtotal	Section Points
PURPOSE			2
DATA & RESULTS			5
	Sig. Figs.	1	
	Correctness of Results	1	
	Accuracy of Results < 5%: (+3.0/3.0) 5%-10%: (+2.5/3.0) > 10%: (+2.0/3.0)	3	
SUMMARY & QUESTIONS			2
SPELLING & GRAMMAR			1
TOTAL POINTS			10