PHYS 1400: Introduction to Physics
Course Syllabus for Spring 2009, TR 9:30-10:55 am

Instructor: Dr. Wayne Keith: 793-3874, keith.wayne@mcm.edu
Office Hours: S 110-C: MWF 10-12, and TRF 1:00-2:00
Web: http://www.mcm.edu/~keith.wayne
Text: *The Physics of Everyday Phenomena (6th)*, by W. Thomas Griffith
Required: scientific calculator, paper, pen/pencil

Course Description: Introduction to Physics is designed as a survey course for students whose backgrounds may not necessarily include extensive mathematics. The material is intended to acquaint students with the basic laws of physics and develop a better understanding of the physical sciences. Various topics will be covered, including the scientific method, motion, energy, heat, electricity, light, and atoms. Most of the topics studied in the class will be conceptual, but math will be used in the class. Although it is assumed that the student knows math through the high school algebra level, problems requiring more than knowledge of the basic operations (addition, subtraction, multiplication, and division) will be reviewed in class. This course requires concurrent enrollment in the laboratory.

Course Goals: To introduce students to a wide variety of physical concepts including the basic laws of physics, atomic structure and the scientific method of problem solving.

Grading: 10% Daily grades: Class participation, attendance, short quizzes (up to one per class session) and other in-class activities. Four lowest daily grades WILL BE DROPPED.
10% Homework: Assignments will be made in class and posted on Moodle. Homework will be due at the beginning of class on the date indicated.
20% Laboratory: See separate lab syllabus for details.
45% exams (15% each): Three in-class exams.
15% Final exam: Comprehensive final.

Attendance/Make up policy: Attendance is required. No make-ups for in-class activities will be given for any reason, since four daily grades will be dropped. See instructor to request extra credit assignments, however, there is no guarantee any extra credit will be available. Make-up exams will be given for excused absences only at the discretion of the instructor. Contacting the instructor via email or phone prior to missing class for any reason is strongly encouraged, even if it is for a school sponsored event.

Classroom Rules: Students are expected to be present and on time for all class meetings. Excessive absences (more than 4 unexcused) may result in the student being dropped from the course. Ringing cell phones and other disruptions during class may result in a loss of daily grade points or other penalties. Late homework loses 5% per class period.

ADA Policy: If you have a documented disability that may impact your performance in this class and for which you may require accommodations, you must be registered with and provide documentation of your disability to the Disability Services Office, Old Main 102, 793-4880.

Final notes: Class discussion is strongly encouraged; please feel free to ask questions, during class or outside of class, about anything that is not clear. Properly preparing for class by completing the reading assignments and homework will help you succeed, especially with the in-class quizzes. Students are encouraged to bring physics related current events to class for discussion (this will contribute to the participation portion of your daily grade).

PHYS 1400 Spring 2009 Course Schedule

All dates and topics are tentative and subject to change except **bold** dates.

Date	Lecture #	Tentative Topic	Laboratory
1/13	1	Ch 1: Introduction and Overview	**No Lab**
1/15	2	Ch 2: Motion: How it works	
1/20	3	Ch 3: Motion: Falling Objects	1. Volume & Uncertainty
1/22	4	Ch 4: Motion, Why it takes place	
1/27	5	Ch 5: Circular Motion	2. Acceleration of Gravity
1/29	6	Forces and Motion, Discussion	
2/3		**Exam 1**	3. Measurement of Mass
2/5	7	Ch 6: Energy and Oscillations	
2/10	8	Ch 7: Momentum and Impulse	4. Centripetal Force
2/12	9	Ch 8: Rotation	
2/17	10	Conservation laws, Discussion	5. Ballistic Pendulum
2/19	11	Ch 9: Fluids	
2/24	12	Ch 10: Temperature and Heat	6. Archimedes' Principle
2/26	13	Ch 11: Thermodynamics	
3/3	14	Heat, Discussion	7. Specific Heat
3/5		**Exam 2**	
3/10		**Spring break**	**No Lab**
3/12		**Spring break**	
3/17	15	Ch 12: Electrostatics	8. E-Fields & Equipotentials
3/19	16	Ch 13: Circuits	
3/24	17	Ch 14: Magnetism	9. Ohm's Law
3/26	18	Electricity and Magnetism, Discussion	
3/31	19	Ch 15: Waves	10. Velocity of Sound in Air
4/2	20	Ch 16: Light	
4/7	21	Ch 17: Optics	11. Simple Lens
4/9	22	Waves and light, Discussion	
4/14		**Exam 3**	**No Lab**
4/16	23	Ch 18: Atoms	
4/21	24	Ch 19: The Nucleus	12. Wavelength of Light
4/23	25	Ch 20: Relativity	
4/28	26	Ch 21: Beyond the Everyday	Makeup Week
4/30		**Final discussion**	
5/5		**Final Exam (Tuesday 8:00am – 10:00am)**	**No Lab**