PHY 1020 Winter 2012

Lecture time and place: MWF 10:40-11:35 am, room 2025 Science Hall

Lecturer: Dr. J. S. Payson
166 Physics, 313 577-3280, payson@wayne.edu

Office hours: to be announced

Text: Inquiry into Physics, Vern Ostdiek and Donald Bord, 6th edition.

Exams: three in-class one-hour exams and a final exam. Exams are closed book and cumulative. There will be NO make-up exams. If one exam is missed and I'm informed of that fact the you will miss the exam ahead of time, the grade will be based on the other exams; otherwise, it will be a zero. If a second (or more) exams are missed, they will factored in as zeros.

Grade determination: Non-Lab: Hour exams—20 points, final exam—40 points. The grade of Incomplete (I) will be assigned only if the student's situation completely complies with the rules promulgated by the university. For those in the laboratory sections: Lab—15 points, Hour exams—15 points, final exam—40 points.

Grading scale (%):	A 93-100	A- 86-92	
	B+ 80-84	B 75-79	B- 70-74
	C+ 65-69	C 60-64	C- 55-59
	D+ 50-54	D 40-49	F < 40

Laboratory (optional): Location—142 Physics Research Building.
Students electing the optional lab will receive 4 credits rather than the 3 credits without the lab. The lab is designed to give you a hands-on experience for a better feeling for the many concepts discussed in the lecture. Your lab score will be determined by your performance on all 10 of 12 experiments. Missed lab work will be given zero credit. In addition, missing more than three labs will have serious consequences on your overall final grade: For each lab missed after the first three missed labs, the final grade will be pushed down by one whole grade. The manual can be downloaded from Blackboard. The schedule is found below.

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an

equal opportunity to fully participate in their educational experience at Wayne State University.

Please be aware that a delay in getting SDS accommodation letters for the current semester may hinder the availability or facilitation of those accommodations in a timely manner. Therefore, it is in your best interest to get your accommodation letters as early in the semester as possible.

Tentative Lecture Schedule

Day	Date	Topics	Text	Lab.
M	1/9	Introduction and Physical Quantities	1.1	No Lab
W	1/11	Position, Speed and Velocity	1.2	
F	1/13	Acceleration, Simple motion	1.3-1.4	
M	1/16	No Class		No Lab
W	1/18	Force, Newton's 1st and 2nd Law	2.1-2.4	
F	1/20	Examples of Motion, 3rd Law	2.5-2.7	
M	1/23	Gravitation and Tides	2.8-2.9	Measurements and Predictability
W	1/25	Conservation laws and linear momentum	3.1-3.2	
F	1/27	Work and Energy	3.3-3.4	
M	1/30	Energy Conservation, Collisions	3.5-3.6	Velocity and Acceleration
W	2/1	Power, Rotation, Angular momentum	3.7-3.8	
F	2/3	Review		
M	2/6	**Exam #1: Chapters 1-3**		Free fall
W	2/8	Phases of Matter, pressure	4.1-4.2	
F	2/10	Density, Fluid pressure and gravity	4.3-4.4	
M	2/13	Archimedes, Pascal, and Bernoulli	4.5-4.7	Newton's Laws
W	2/15	Temperature, thermal expansion	5.1-5.2	
F	2/17	1st law of Thermodynamics, Heat	5.3-5.5	
M	2/20	Phases changes, engines, 2nd law	5.6-5.7	Density and Hydrometers
W	2/22	Waves, types and properties	6.1-6.2	
F	2/24	Diffraction, Interference, Sound	6.2-6.4	
M	2/27	Propagation and perception of sound	6-5-6.6	Calorimeters
W	2/29	Review		
F	3/2	**Exam #2: Chapters 4-6**		
M	3/5	Electric charge, Coulomb's Law	7.1-7.2	Circuits
W	3/7	Current, Circuits, Ohm's Law	7.3-7.4	
F	3/9	Power, ac and dc circuits	7.5-7.6	
M	3/19	Magnetism, Electromagnetism	8.1-8.2	Electromagnetism
W	3/21	Electromagnetism and Waves	8.3-8.5	
F	3/23	Blackbody radiation, Atmosphere	8.6-8.7	

M	3/26	Light, Optics, Reflection	9.1-9.2	Periodic Motion
W	3/28	Refraction, Lenses, and Images	9.3-9.4	
F	3/30	Miscellaneous optics	9.5-9.7	
M	4/2	Quantum physics, PE effect, photons	10.1-10.2	Wave Nature of Light
W	4/4	Atomic spectra, Bohr's model	10.3-10.4	
F	4/6	Atomic structure, X-rays, Lasers	10-6-10.8	
M	4/9	**Exam #3: Chapters 7-10**		Spectroscopy
W	4/11	The nucleus, radioactivity	11.1-11.2	
F	4/13	Nuclear reactions, binding energy	11.3-11.5	
M	4/16	Nuclear Fission and Fusion	11.6-11.7	No Lab
W	4/18	Einstein: Special Theory	12.1	
F	4/20	Forces and Particles	12.2	
M	4/23	Review		
T	5/1	**Final Exam: cumulative**	1-12	8:00-10:30 am

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