Physics 2130 **GENERAL PHYSICS** **Winter 2012**

Lecture: Tuesday and Thursday 6:00PM – 7:20PM. (01/09/12 – 05/01/12)
Room: 0134 Stat
TEXT: PHYSICS by Giambattista, Richardson and Richardson, McGraw-Hill. 2nd Ed.

ISBN: 978-0-07-733968-5

WebAssign Access Number…. $25.95 if purchased without the textbook

LECTURER: Prof.. Karur R. Padmanabahn

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COURSE WEB PAGE: WSU Blackboard

OFFICE HOURS: T and Th: 4:00PM – 5:40 PM .

LABORATORY: PHY 2131 is the laboratory portion of PHY 2130. It is a co-requisite and, thus, is mandatory for you to be enrolled in both courses concurrently. However, laboratory is treated as a separate part of the course with its own grades and procedures which will be explained by your laboratory instructor. The experiments provide tangible demonstration and reinforcement of the ideas presented in this course. In addition, the laboratory is meant to show the importance of experiments in science. Your **laboratory manual** is to be purchased separately at the University Bookstore. *Lab sections of PHY 2131 will not meet during the first week.*

QUIZ SECTIONS: Quiz sections meet once per week and are important. They allow you to meet together in small groups to ask questions, discuss lecture material, discuss assigned practice problems, etc. **Homework assigned practice problems will be posted chapter by chapter on Blackboard as the course progresses.** The practice problems are intended to test your understanding of the course material. In the same way you must practice to become proficient at a sport or musical instrument, you must work physics problems in order to master basic physics. *It is very important that you work out the solutions to each problem, and understand clearly the correct method of solution. It will be difficult to obtain a good grade in this course without making a conscientious effort to do all of the homework assignments.* Quiz instructors, by using a few examples, are there to help students to understand the problems and to learn problem solving skills. However, they may not have time to do all the problems in details. It is student's responsibility to work on all the practice problems. In the quiz sections, particularly during (but not limited to) the weeks indicated by asterisks, you may be given short quizzes, which will have questions and

problems similar to your homework assignments. *5 best quizzes out of 70 will be counted toward your final quiz score.* You will have the opportunity to earn up to **50 points** towards your course grade for the performance of the quiz sections. *No individual make-up quizzes will be given.* **Quiz class starts the first week of classes**.

Quiz Sections	CRN	Instructor	Room
T 7:30PM – 8:25PM	22977	Dhindsa	185 Physics
Th 7:30PM – 8:25PM	22978	Dhindsa	185 Physics

EXAMS: There will be three mid-term 50-minute exams in class. The lowest exam score may be replaced by half of your earned score on the Final Exam. Therefore, no makeup exams will be given. You MUST bring your Wayne State ID to the exam and present it to the professor when asked during the exam. **A group photograph of the class will be taken during each exam.** No electronic devices (other than a calculator) are allowed in the room during the exam (**no iPods, headphones, cell-phones, Blackberries, etc**.)

ONLINE HOMEWORK: The WebAssign online testing system: (http://webassign.net) provides online homework submission and grading. You will be asked to solve and submit for grading some additional problems each week for a **maximum** of **50 points** of your final score. If you buy the book in the bookstore, it will include a WebAssign access card valid for two semesters. However, if you need this access card, you can purchase it through the internet. You will need to self-enroll yourself for web-assign access. I have initiated your registration process by activating your account using your 9 digit Wayne State ID number. Please consult your WebAssign Student Guide for additional information. The password to initially login for all of my students is "phy2130_901", **I strongly encourage you to change your password as soon as you login to your profile for the first time**.

GRADING: Your course grade will be determined by your performance in three midterm Exams, Online Homework, Quiz Section results, and a Final Exam. The Final Exam will cover the material presented during the entire semester. The overall course grade will be determined on the basis of the following distribution:

Three In-class 50 Minute Exams (100 points each)	300 points
Quizzes (best 6), attendance in quiz sections	50 points
Final Exam	200 points
Online Homework	50 points
Total	**600 points**

Points accumulated	Percent	Grade
540-600	91-100	A

510-539	85-90	A-
480-509	80-84	B+
450-479	75-79	B
420-449	70-74	B-
390-419	65-69	C+
360-389	60-64	C
330-359	55-59	C-
300-329	50-54	D+
270-299	45-49	D
240-269	40-44	D-
0-239	0-39	F

ADDITIONAL STUDY HELP: If you have difficulty doing homework or lab work, or understanding some of the course material, you can get help from the *Physics Resource Center*, in room 172 Physics Building (the center will open in a couple of weeks after the beginning of the semester). Also, free tutoring help can be found at the main campus undergraduate library by student instructors (SI) who have previously taken the course and did well.

WITHDRAWAL DEADLINE: Effective Fall 2011, the deadline to withdraw from any course of Wayne State has been changed to the end of the 10^{th} week of the semester. Therefore, the course withdrawal deadline for our course will be Saturday, March 24th. Any course withdrawal request on Pipeline after March 24th will be automatically denied.

ATTENDANCE: Attendance to all lectures and quiz section is expected. Optional challenge questions/problems given in class randomly may allow you to earn bonus points. Students not in attendance will not have the option to do the challenge problems.

ACADEMIC INTEGRITY: All forms of academic dishonesty are forbidden in this class. Examples of academic dishonesty include all variations of cheating during exams as well as changing test answers for re-grading. Continuing to write after the exam time is up will result in the grade of zero for that exam. All forms of academic dishonesty will be prosecuted to the fullest extent as outlined in the Student Due Process Policy of the University.

Excerpts from the University's Student Due Process Policy regarding disruptive behavior are outlined below. This policy will be enforced during all academic activities relating to PHY 2130 especially lecture and quiz classes. A student who is being disruptive in quiz class will lose 10 points per occurrence from their total score. A student who is disruptive during lecture runs the risk of losing one exam score. Repeat offenders will have their course grade down-graded and if necessary, they will receive an F for the course. Lastly, a student may be brought before the Dean of his or her College for further action.

The most important consequence of cheating/plagiarism or any other form of academic dishonesty, whether or not it is detected, is that you will not be able to do the work, and moreover you will not have the confidence that you can do that part of the course work. The ability to step up in the outside world and say with confidence, "I can do that" is surely one of the primary benefits of a college-level course, and is the source of many of the other benefits. You may "get away" with cheating once or even more than once, but the main penalty, far worse than any grade punishment, is that your college education, which is one of the best things you can do for yourself, will not have the benefits you are looking for.

Wayne State University – STUDENT DUE PROCESS POLICY

1.0 PREAMBLE

1. As provided by the Board of Governors in WSUCA 2.31.01, "Student Rights and Responsibilities," and as mandated by academic tradition, the students of Wayne State University possess specific rights and responsibilities. Students are expected to conduct themselves in a manner conducive to an environment, which encourages the free exchange of ideas and information. Students, as integral members of the academic community, have the right to the assurance that their rights are protected from arbitrary and capricious acts on the part of any other member of the academic community. This Student Due Process Policy is designed to assure that students who are alleged to have engaged in unacceptable conduct receive fair and impartial consideration as specified in this policy.

4.0 PROHIBITED CONDUCT

The following conduct is subject to disciplinary action when it occurs on University premises, or in connection with a University course or University documents, or at a University-sponsored activity:

4.1 All forms of academic dishonesty.

4.3 Physical abuse of another person, or conduct which threatens or endangers another, or verbal or physical threats which cause reasonable apprehension of harm.

4.6 Disorderly behavior that interferes with activities authorized, sponsored, or permitted by the University such s teaching, research, administration, and including disorderly behavior that interferes with the freedom of expression of others.

5.0 DISCIPLINARY SANCTIONS

Students found to have committed an act, or acts of misconduct may be subject to one or more of the following sanctions, which shall take effect immediately upon imposition, unless otherwise stated in writing, except as provided in this policy.

5.1 Disciplinary Reprimand. Notification that the student has committed an act of misconduct, and warning that another offense may result in the imposition of a more serious sanction.

5.2 Disciplinary Probation. A disciplinary status which does not interfere with the student's right to enroll in and attend classes, but which includes specified requirements or restrictions (as, for example, restrictions upon the student's representing the University in any extracurricular activity, or running for or holding office in any student group or organization) for a specific period of time as determined in the particular case.

5.3 Suspension. A denial of the privilege of continuing or enrolling as a student anywhere within the University, and denial of any and all rights and privileges conferred by student status, for a specified period of time. At the termination of the suspension

the student will be entitled to resume his/her education without meeting any special academic entrance requirements.

5.4 Expulsion.

5.5 Restitution.

5.6 Transcript disciplinary Record.

5.7 Other Sanction.

10.0 PRELIMINARY PROCEDURE

10.1 When a faculty member is persuaded that academic dishonesty has occurred, the faculty member may, without using the mechanism of filing a charge, adjust the grade downward (including downgrading to a failing grade) for the test, paper, or other course-related activity in question, or for the entire course.

STUDENT DISABILITY SERVICES: 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 CLASS SCHEDULE (Subject to change, * indicates a suggested quiz week)

Week	Date	Day	Lecture Topic	Chapter Reading Assignment
1	10-Jan	Tu	Introduction, Scientific Notation, Diagnostic exam	1.1-1.9
	12-Jan	Th	Displacement, Velocity, Acceleration	2.1-2.3

2	17-Jan	Tu	Motion along a line, kinematic equations	2.4-2.6
	19-Jan	Th	Vectors	3.1-3.2
3*	24-Jan	Tu	Velocity, acceleration, motion in a plane	3.3-3.5
	26-Jan	Th	Force and Newton's Laws of Motion	4.1-4.4
4	31-Jan	Tu	**EXAM 1 (Ch. 1-3)**	4.5-4.6
	2-Feb	Th	Gravity, contact forces	4.7-4.10
5*	7-Feb	Tu	Uniform circular motion	5.1-5.4
	9-Feb	Th	Constant angular acceleration, Apparent weight	5.5-5.7
6	14-Feb	Tu	Work and Energy, kinetic energy	6.1-6.3
	16-Feb	Th	Potential energy, variable forces	6.4-6.6
7*	21-Feb	Tu	Impulse, conservation of momentum	7.2-7.5
	23-Feb	Th	Collisions	7.6-7.8
8	28-Feb	Tu	Rotational kinetic energy, torque, work	8.1-8.3

	1-Mar	Th	**EXAM 2 (Ch. 4,5,6,7)**	8.4-8.5
9*	6-Mar	Tu	Equilibrium, Newton's 2nd Law, rolling	8.6-8.9
	8-Mar	Th	Fluids, pressure, Pascal's principle	9.1-9.3
10	13-Mar	Tu	No Class	Spring Break
	15-Mar	Th	No Class	Spring Break
11*	20-Mar	Tu	Fluid pressure, buoyancy, fluid flow	9.4-9.7
	22-Mar	Th	Simple Harmonic Motion	10.5-10.7
12	27-Mar	Tu	Pendulum, oscillations, resonance	10.8-10.10
	29-Mar	Th	Waves, speed, periodic waves, math	11.1-11.6
13*	3-Apr	Tu	Sound Waves, Pipes, Doppler Effect	12.4-12.8
	5-Apr	Th	Temperature, Thermal Expansion	13.1-13.3

14	10-Apr	Tu	**EXAM 3 (Ch. 8,9,10,11,12)**	13.4-13.5
	12-Apr	Th	Ideal Gas Law, Kinetic theory	13.6-13.8, 14.1
15*	17-Apr	Tu	Internal Energy, Heat, Specific Heat	14.2-14.3, 15.1
	19-Apr	Th	Thermodynamics, The 1st Law, Processes	15.2-15.3, 15.8-15.9

Tuesday May 1st 2012 Final Exam 1:20-3:50 PM Cumulative

Location : General Lecture 100

TIPS FOR SUCCEEDING IN INTRODUCTORY PHYSICS:

There is no "secret" to succeeding at Introductory Physics. The things you must do to achieve your best results are amazingly clear and should not be unknown to you. Previous experience with many, many students has shown the following traits/habits seem to be common to most students who excel in the introductory physics course.

1.**Come to class.** Regular class attendance is extremely important for success in the course. Class #s will be assigned to students to periodically monitor attendance.

2.**Get the text book.** Read it. Use it. There are LOTS of very good hints and ideas in the Preface. Most students do not read the Preface, but in it the authors have given you their best advice on how to use the text successfully.

3.**Actually read the text.** This is preferably done before the class lecture, and if possible, afterward as well. Make sure you read the "Master the Concepts" section at the end of each chapter – it is critical to summarize what you've learned.

4.**Put in the time.** The text book recommends (and we agree) that you should be spending at least 2 hours outside of the class for every hour of lecture. This is at least 6 hours per week. It is best to spend time both before class getting familiar with the material, and after class reviewing the material.

5.**Practice, practice, practice.** Do the assigned homework, do the extra credit problems, and do book problems. You can watch Michael Jordan play basketball for 3 hours a day, every day, and you will never get better at basketball – not unless you yourself put in the practice.

6.**Strive for understanding.** Many students feel if they just "get the answer" from a TA or help center person, they have accomplished the task. This is incorrect. You have accomplished your task when you truly understand the problem, how to set it up, how to solve it, and what it is asking. Just completing the problem to get some random answer is not enough. Realize that we provide you the formulas you will need, thus memorization is not terribly helpful.

7.**Attend your instructor's office hours.** This will be most effective if you bring your book and your homework problems and ask him/her to help you identify your "sticking points." Open-ended statements like, "I don't get any of it," will not be helpful in this setting.