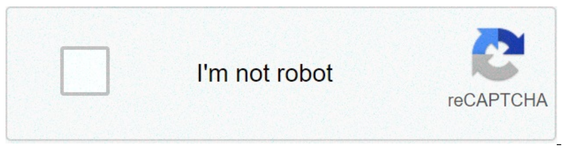

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Matter and interactions volume 2 4th edition pdf

Phys 211 – Fall 2017 – Section 2 Syllabus Instructor: Dr Luca Bombelli E-mail: bombelli at olemiss.edu Website: luca/ Office: Lewis Hall 108 Office Hours: Mondays 8:30-10:00 in Lewis 104, or by appointment Phone: (662) 915-5319; Fax: (662) 915-5045 Lecture: Lewis 101, TTh 8:00 – 9:15 Required Text: Ruth W. Chabay & Bruce A. Sherwood, Matter and Interactions, Volume I: Modern Mechanics, 4th Edition, Wiley 2015. You will need a course pack that provides access to the WebAssign online homework system and ebook for the Chabay & Sherwood text; you can access this through Blackboard. If you wish, you may purchase just the online package, which includes all of the required textbook and homework material. You will also need the Top Hat classroom response system. Additional Material: A non-programmable calculator with keys for the main functions used in scientific calculations (trig functions, square root, logs, inverse, square), and the value of π, is highly recommended. Course Description This is the first course of a two-course sequence on calculus-based introductory physics, mainly for science and engineering majors; the companion course is Phys 212. Students who enroll must also take, or have previously passed, the Phys 221 lab or an equivalent lab course. In terms of math, students must either have taken Math 261, Calculus I, or be taking it together with Phys 201; They should also be comfortable with algebra up to quadratic equations, and with the basics of trigonometry. We cover roughly the 12 chapters of Volume 1 of the textbook. The main themes are: Motion, forces and energy for small objects in one, two and three dimensions; Analogous topics for larger objects that can rotate; Equilibrium, Elasticity, Gravitation, Fluids; Oscillations and Waves. Significant goals of this course are for students to improve their analytical reasoning and problem-solving skills. Part of this consists in "applying equations" and "getting the right result", but students will be evaluated on a broader set of skills, including the way they analyze a problem and place it in context, and the way they explain the general concepts and their approach to the problems in writing.We will be using calculus throughout the course. In the first semester we will mostly use differentiation (derivatives), but we will occasionally see examples of integrals. We make a heavier use of integration in the second semester. Evaluation Weights Homework-O .. 10% Homework-P .. 10% Top Hat ..... 20% 3 Midterms .. 30% Final Exam .. 30% Grading Scale 92% ≤ A ≤ 100% 88% ≤ A- < 92% 84% ≤ B+ < 88% 80% ≤ B < 84% 76% ≤ B- < 80% 72% ≤ C+ < 76% 68% ≤ C < 72% 64% ≤ C- < 68% 50% ≤ D < 64% F < 50% Homework: Homework will be assigned, both to be done online and to be turned in on paper; announcements will be made in class and posted on this website. Homework turned in after the time it is due (both online and on paper) may not be accepted, but students may be excused from turning in an assignment if there is a valid reason. The lowest homework grade (both online and on paper) will be dropped. Solutions and format: Answers to questions and problems must always include explanations, and the grade will reflect content, presentation, and English. Remember to include the appropriate units with all quantities, and the appropriate number of significant figures. Paper homework must be written on 8.5 x 11" sheets and easy to read; pages must be stapled together, and have smooth (not torn) edges. Comment on group work: Physics is very rarely done alone. I encourage you to form study groups in preparation for homework assignments and tests. However, homework assignments should be the work of each individual student. If you can not do the homework, you will not do well on the tests! Quizzes: There will usually be a short quiz at the beginning of the lecture period on the material that was just covered. Tests: There will be three midterm tests and a final exam, consisting of numerical problems as well as essay questions and possibly multiple-choice questions. Students will be allowed to use a calculator, and one equation sheet will be provided together with each test. The final exam will be comprehensive, with emphasis on the last part of the course. Academic Integrity: Academic integrity is essential to all the values upon which the university is founded, and students must embody academic honesty in all aspects of their work. A student with a documented case of plagiarism or academic cheating will face consequences ranging from receiving a 0 on the assignment, quiz or test in question to a grade of F for the course, or possibly more severe ones depending on the seriousness of the incident. Specific consequences of such behavior will be determined by the faculty member, or if necessary by the university's Academic Discipline committee. Attendance Policy: There is no explicit attendance policy for the course, but attendance is expected and missed quizzes or other evaluations due to absences will result in scores of 0; students are required to scan their IDs at the beginning of each lecture period. There will normally be no make-ups for missed assignments, quizzes or tests, but a missed grade may be dropped if there is a good reason for it and the student has a good overall attendance record. Note: If a change in the class policies became necessary during the semester, it would be discussed in class before being implemented. After this discussion, the change would be posted on this website. website by luca bombelli ; content of this page last modified on 28 nov 2017 Adopters of Matter & Interactions may join an online discussion group. (Typically around 10-15 posts per month.) Resources Available at the Instructor Site If you are teaching a course in which students use the 4th edition of Matter & Interactions, you may register at the Instructor Site to get access to the following resources: Videos Annotated videos of segments of lectures on Volume 1 by Ruth Chabay and Volume 2 by Matthew Kohlmyer. Many instructors have found these useful for getting a sense of pace and level of presentation. Public versions of these videos are available on the Student site. Instructor's Guide to Computational Modeling An overview of computational modeling in Matter & Interactions 4th edition, with FAQ for instructors, instructional goals, and a complete set of computational activities for mechanics and E&M. The computational activities have been rewritten to take advantage of the greatly increased support for computation in the 4th edition, including explicit instruction in how to use VPython. LaTeX files are provided to allow instructors to revise and extend these activities. A set of videos introduce students to VPython and provide introductory exercises. Lab Activities Lab experiments and computational modeling activities, updated for the 4th edition. LaTeX files are provided to allow instructors to revise and extend these activities. Lecture-Demo Programs Public and private VPython programs useful as lecture demos. The public programs are also available on the student web site. A convenient feature is that you can run these VPython programs in the browser at the instructor site, without installing VPython, using the new GlowScript version of VPython. Clicker / Plicker Questions Powerpoint and pdf files of questions posed to students in interactive lectures. Students respond with phones or electronic response units. Each file contains questions for one chapter, and the questions are numbered to correspond with the section of the chapter for which the question is appropriate. Textbook Illustrations jpegs of all textbook illustrations are provided for instructors who wish to make slide presentations. Test Questions A bank of test questions, organized by chapter. Questions are provided in LaTeX and pdf. Solutions Manual The instructor solutions manual was written by Aaron Titus and Joe Heafner. There is also a student solutions manual with solutions to selected odd-numbered problems, available to students from Wiley. Online Homework All problems in the 4th Edition of Matter & Interactions are available in WileyPLUS and WebAssign. Chapter 1: Interactions and Motion. This chapter includes an introduction to 3D vectors, which is also needed for Volume 2, Electric & Magnetic Interactions. Fall 2019 videos of lectures on mechanics by Ruth Chabay, These include instruction on the use of VPython to model physical systems. Demo programs written in VPython, including code for Problems P28, P29, and P30 in Chapter 8 of the "Matter & Interactions" textbook. Supplement S1: Gases and Heat Engines (prerequisite: Chapter 12) Volume 2: Electric & Magnetic Interactions Spring 2020 videos of lectures on electricity and magnetism by Ruth Chabay. Demo programs written in VPython Supplement S2: Semiconductor Devices (prerequisite: Chapter 21) Supplement S3: Waves (prerequisite: Chapter 4 for mechanical waves; Chapter 23 for electromagnetic waves) Student Solutions Manual Student solutions manual for Matter & Interactions, 4th Edition VPython Introductory videos on VPython GlowScript VPython: a browser-based environment for VPython requiring no installation © 1996-2015, Amazon.com, Inc. or its affiliates MATTER+INTERACTIONS EBOOK CARD4 EditionISBN: 9781119113430Matter and Interactions, Volume II4 EditionISBN: 9781119113409MATTER+INTERACTIONS:COMPLETE-W/ACCESS4 EditionISBN: 9781119091523MATTER+INTERACTIONS:COMP.(LL)-W/ACCESS4 EditionISBN: 9781119091677Matter and Interactions, Volume I: Modern Mechanics, 4e with WebAssign Plus Physics 1 Semester Set4 EditionISBN: 9781119091691Matter And Interactions4 EditionISBN: 9781119455752MATTER+INTERACTIONS CODE WITH EBOOK4 EditionISBN: 9781119352440Matter & Interactions4 EditionISBN: 9781118914526EBK MATTER AND INTERACTIONS4 EditionISBN: 9781119029083Matter & Interactions4 EditionISBN: 9781118914519MATTER & INTER4 EditionISBN: 9781119462095MATTER+INTERACTIONS LOOSE LEAF+CODE4 EditionISBN: 9781119438083MATTER+INTERACTIONS,VOL.1(LL+WILEY PLUS4 EditionISBN: 9781119462422Matter and Interactions, Volume I: Modern Mechanics4 EditionISBN: 9781118914496Matter and Interactions, Volume II: Electric and Magnetic Interactions4 EditionISBN: 9781118914502MATTER & INTER WPLMSC W/WLYETXC4 EditionISBN: 9781119462248MATTER & INTE W/PLMSC W/WYET/LLP4 EditionISBN: 9781119462354Matter And Interactions3 EditionISBN: 9780470503478Matter And Interactions 3th Edition Binder Ready Version With Binder Ready Survey Flyer Set3 EditionISBN: 9781118018637 Note: Supplemental material (e.g. CDs, DVDs, access codes, or lab manuals) is only included with a new textbook purchase.* Savings are calculated off list price† See terms and conditions Matter and Interactions, Volume I Textbooks | Buy Textbooks | Math & Science Textbooks | Modern/Quantum Physics Textbooks Summary Author bio Table of contents Digital rights Excerpt : (PDF) Excerpt : (PDF) Download Product Flyer Download Product Flyer is to download PDF in new tab. This is a dummy description. Download Product Flyer is to download PDF in new tab. This is a dummy description. Download Product Flyer is to download PDF in new tab. This is a dummy description. Download Product Flyer is to download PDF in new tab. This is a dummy description. Rent college textbooks at our lowest prices. Wiley Textbook Rental lets you keep your textbook for a period of 130 days. Matter and Interactions, Volume II offers a modern curriculum for introductory physics (calculus-based). It presents physics the way practicing physicists view their discipline while integrating 20th Century physics and computational physics. The text emphasizes the small number of fundamental principles that underlie the behavior of matter, and models that can explain and predict a wide variety of physical phenomena. Matter and Interactions will be available as a single volume hardcover text and also two paperback volumes.Volume Two includes chapters 13-23. 13 Electric Field 14 Electric Fields and Matter 15 Electric Field of Distributed Charges 16 Electric Potential 17 Magnetic Field 18 Electric Field and Circuits 19 Circuit Elements 20 Magnetic Force 21 Patterns of Field in Space 22 Faraday's Law 23 Electromagnetic Radiation The Supplements can be found at the web site, ww.wiley.com/college/chabay Supplement S1 Gases and Heat Engines S1-1 Supplement S2 Semiconductor Devices S2-1 Supplement S3 Waves S3-1 Online Homework – now all of the end-of-chapter problems are available for assignment with the WebAssign online homework system. Instructor Solutions Manual – The new edition is accompanied by a complete instructor solutions manual. NEW Student Solutions Manual – contains full solutions to a selection of end-of-chapter problems. Increased support for computational modeling throughout. Discussion throughout the text contrasting iterative and analytical problem solutions. Many new computational modeling problems – large and small. Improved discussion throughout of the contrast between models of a system as a point particle and as an extended system. Improved discussion of the Momentum Principle throughout Volume 1. Improved treatment of polarization surface charge in electrostatics (Ch.14) and circuits (Ch.18) based on computational models. More extensive problem sets at the end of each chapter, with improved indication of difficulty level. Modeling: The text places a major emphasis on constructing and using physical models. A central aspect of science is the modeling of complex real-world phenomena. A physical model is based on fundamental principles; its intent is to predict or explain the most important aspects of an actual situation. Computer Modeling: Computer modeling is now as important as theory and experiments in contemporary science and engineering. Computer modeling is introduced early to help build a strong foundation in the use of this important tool. Experiments Using Simple Equipment: Some end-of-chapter problems involve experiments using simple equipment such as weights, string, coffee filters, scotch tape, etc. By experimenting with very simple equipment, students can gain insight into rather deep scientific issues. Active Learning: Stop and Think questions are interspersed throughout the reading to encourage students to engage the material more deeply. Lab Activities: There is a complete set of lab activities that were written specifically for a Matter & Interactions-style course.