

Undergraduate Council  
 New Course  Course Change  
 Core Category: Nat Sci Effective Fall 2009

or  Graduate/Professional Studies Council  
 New Course  Course Change  
 Effective Fall     

RECEIVED OCT 23 2008

1. Department: Physics College: NSM  
 2. Faculty Contact Person: Donna Stokes Telephone: 713-743-3588 Email: dstokes@uh.edu

3. Course Information on New/Revised course:  
 • Instructional Area / Course Number / Long Course Title:  
PHYS / 1321 / University Physics I  
 • Instructional Area / Course Number / Short Course Title (30 characters max.)  
PHYS / 1321 / UNIVERSITY PHYSICS I  
 • SCH: 3.00 Level: FR CIP Code: 48.0801.00 Lect Hrs: 3 Lab Hrs: 1

APPROVED DEC 10 2008

4. Justification for adding/changing course: To more accurately reflect course content/level  
 5. Was the proposed/revised course previously offered as a special topics course?  Yes  No

If Yes, please complete:  
 • Instructional Area / Course Number / Long Course Title:  
 \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 • Course ID: \_\_\_\_\_ Effective Date (currently active row): \_\_\_\_\_

6. Authorized Degree Program(s): BS and BA /Physics and BS/Physics with Geoscience Specialization  
 • Does this course affect major/minor requirements in the College/Department?  Yes  No  
 • Does this course affect major/minor requirements in other Colleges/Departments?  Yes  No  
 • Can the course be repeated for credit?  Yes  No (if yes, include in course description)

7. Grade Option: Letter (A, B, C ...) Instruction Type: lecture laboratory (Note: Lect/Lab info. must match item 3, above.)

8. If this form involves a change to an existing course, please obtain the following information from the course inventory: Instructional Area / Course Number / Long Course Title  
PHYS / 1321 / UNIVERSITY PHYSICS I  
 • Course ID: 039083 Effective Date (currently active row): 08/20/2007

9. Proposed Catalog Description: (If there are no prerequisites, type in "none".) both  
 Cr: 3. (3-1). Prerequisites: Credit for or concurrent enrollment in MATH 1432. Description (30 words max.): Primarily for science and engineering majors. Credit may not be applied toward a degree for PHYS 1321 and PHYS 1301. Mechanics of one- and two-dimensional motion, dynamics, energy, momentum, rotational dynamics and kinematics, statics, oscillations, and waves.

10. Dean's Signature: \_\_\_\_\_ Date: 21 Oct '08

Print/Type Name: Dean John Bear

U N I V E R S I T Y of H O U S T O N

CORE CURRICULUM COURSE REQUEST

Originating Department/College: Physics/ NSM

Person making request: Donna Stokes Telephone: 713-743-3588

E-mail: dstokes@uh.edu

Dean's signature: [Redacted] Date: 21 Oct '08

I. General Information:

Course number and title: Physics 1321, University Physics I

Catalog description must be included on completed CBM 003 form and attached to this document.

Category of Core for which course is being proposed (mark only one):

- Communication
- Mathematics
- Mathematics/Reasoning (IDO)
- American History
- Government
- Humanities
- Visual/Performing Arts Critical
- Visual/Performing Arts Experiential
- Natural Sciences
- Social/Behavioral Sciences
- Writing in the Disciplines (IDO)

II. Objectives and Evaluation (respond on one or more separate sheets):

Call ext. 3-0919 for a copy of "Guidelines for Requesting and Evaluating Core Courses" or visit the website at [www.uh.edu/academics/corecurriculum](http://www.uh.edu/academics/corecurriculum)

- A. How does the proposed course meet the appropriate Exemplary Educational Objectives (see **Guidelines**). Attach a syllabus and supporting materials for the objectives the syllabus does not make clear.
- B. Specify the processes and procedures for evaluating course effectiveness in regard to its goals.
- C. Delineate how these evaluation results will be used to improve the course.

**CORE CURRICULUM COURSE REQUEST**  
**Supplementary Documentation**  
**Phys 1321/University Physics I**

- A. See attached syllabus
- B. The outcome of this course is to provide knowledge of physical science, mathematics, and statistics required to support an understanding of Physics. Upon completion of this course, the student will have the ability to communicate orally and in writing in a clear concise manner, evidence of their scientific knowledge. To evaluate the courses contribution to the core curriculum, an evaluation of the students' achievements is attained through samples of students' work. Students' communication of solutions to both conceptual questions and word problems on final examinations must be logical and organized and must be understandable to a trained physicist. They must also demonstrate the ability to properly use mathematics to obtain solutions.

Also, to evaluate the courses contribution to the core curriculum, an end of the semester course evaluation form designed for lecture based classes is administered. The forms consist of 20 questions which cover quality of the information covered in the course, course organization, examination fairness and textbook quality. The questions also emphasize the quality of the instructor, including instructor-student interaction, instructor's overall knowledge of the material covered and the instructor's effectiveness for the course. The form also includes a comment section in which students can write in any additional comments regarding the course, which were not covered by the questions on the evaluation.

- C. Samples of student exams are evaluated by the faculty to determine if the expected outcomes of the course are met. In addition, statistics from the course evaluation forms are collected at the end of the semester. Statistics from all sections of the course are compared and inferences about the quality of the course, textbook and the instructors' teaching skills are determined. These results are disseminated to the undergraduate studies committee of the department, as well as to the all instructors in the department, so that the necessary course adjustments can be made.



**COURSE TITLE/SECTION:** Physics 1321 University Physic I/11188  
**TIME:** 2:30 - 4 pm TTh      **LOCATION:** SEC - Rm. #531-C  
**FACULTY:** Dr. Stokes      **OFFICE HOURS:** 1-2:30 pm MWF and by appointment  
Science and Research #1, Rm. 408  
**E-mail:** dstokes@uh.edu      **Phone:** (713) 743-3549      **FAX:** (713) 743-3589

---

**I. Course: Physics 1321 - University Physics I**

- A. Catalog Description:** Primarily for science and engineering majors. Mechanics of one- and two-dimensional motion, dynamics, energy, momentum, rotational dynamics and kinematics, statics, oscillations, and waves.
- B. Prerequisites:** Credit for or concurrent enrollment in MATH 1432, Calculus II. Credit may not be applied toward a degree for University Physics I, PHYS 1321 and General Physics I, PHYS 1301.

**II. Course Objectives:** The objective of this course is to learn the principles of mechanics through application of Newton's laws, understand the concept of energy and be able to apply these concepts to describe the motion of objects.

Upon completion of this course, students will be able to:

1. master the physical concepts of force and energy;
2. be able to apply these to obtain solutions to technical problems;
3. use this scientific foundation to continue studies in more advanced courses in science and engineering.

Other learning outcomes include:

1. Students completing this course will be able to convey knowledge of the principles of physics and be able to use these principles to solve problems.
2. Students will be able to take a real life problem and use physical principles and mathematical tools to describe the problem.

**III. Course Content:** This course will cover chapter 1-17 of the assigned textbook which include the following topical areas:

1. Vectors
2. Newtonian Mechanics: Motion in 1-D, 2-D and 3-D
3. Newton's Laws: Force and Motion

4. Work and Energy
5. Momentum and Collisions
6. Noninertial Reference Systems
7. Rotational of Rigid Bodies
8. Gravity
9. Fluids
10. Oscillations about Equilibrium
11. Waves

**IV. Course Structure:**

The web address for the class is [http:// phys.college.edu](http://phys.college.edu).

**V. Textbooks**

*Fundamentals of Physics, 8th edition*, by Halliday, Resnick and Walker, available at the UH bookstore.

**VI. Course Requirements**

- A. Reading Assignments:** Reading quizzes covering the material from the reading assignment, consisting of 2-3 questions/problems, will be assigned over WebCt for each chapter. The quizzes will be available at least 24 hours before they are due and they will be due by the beginning of the lecture time. There will be a time limit for taking the quiz and you will be allowed 2 attempts for each quiz. Solutions for the quizzes will be discussed during the lecture and will be posted on the class website.
- B. Written Assignments:** 3-7 **homework** problems will be assigned at the beginning of each chapter and will be due approximately one week from that date. Three of the assigned problems will be chosen to be graded. They will be graded on a scale of 0 to 5, where 5 points are given for a completely correct solution and 0 points for a totally incorrect solution. Late homework is only accepted with a valid excuse.
- C. Exams:** There will be one **diagnostic exam**, three **regular exams** and a **final exam** for a total of five exams for the class. This exam will test your basic mathematical skills needed for the course. The required diagnostic exam for this course will be administered by CASA Testing Center on **August 4-11th and August 27th - September 4th**. You can log onto the CASA website to make a reservation at <http://casa.uh.edu> or you may go to room 222 Garrison Gym. If you score 50% or below on this exam, you must show proof of completion or concurrent enrollment in MATH 1432, by September 5th, or you will be dropped from the course and any labs associated with this course by your instructor. **You may do so by giving me a copy of your transcript showing the completed course or concurrent enrollment or you may e-mail your record of the course from your Peoplesoft account to [dstokes@uh.edu](mailto:dstokes@uh.edu).** If you e-mail your records, you must include the course name, section number and instructor name in the subject line of the e-mail.

The diagnostic exam is worth 3% of your final grade. If you score above 70%, you should be well prepared to pass the course, 51 - 70%, you should review algebra

and trigonometry, 50% and below, you should consider dropping the course and either enrolling in Phys 1100, Physics Problem Solving, or re-enrolling once you have improved your math and problem solving skills.

The **regular exams** will be given during the scheduled examination period for this course which is on Fridays from 5:30 – 7:00 pm (see note on the course listing). The regular exams will cover 2-4 chapters and will consist of 2 to 3 problems each worth 10 – 20 points and 3-4 conceptual questions each worth 5 points. Partial credit will be given. Each regular exam will be worth 14 % of your final grade for a total of 42% for the three regular exams. The **final exam** will be comprehensive covering all chapters covered for the course. The format of the final exam will be similar to that of a regular exam. This exam will be given during the University scheduled time.

- D. **Extra Credit:** Extra credit points will be given via questions answered during lecture using the personal remote system. Each student will be responsible for purchasing a remote and registering the remote through einstruction.com (see website for more info: <http://www.college.edu/clickers>). The remotes may be purchased at:

UH Discount Software  
116 Building #2  
8:00 am – 8:00 pm Monday-Friday  
111-111-1111  
[software@college.edu](mailto:software@college.edu)

They accept Amex/MC/Visa, cash and check and you must bring a student ID to buy the remote. Instructions for enrolling your remote will come with the remote or can be found on the class website. To enroll your remote for the course, you will need the class key listed below.

**Class Key: B1121F351**

**Notes:** For all exams you may use any type of calculator. A formula sheet will be provided with all necessary formulas needed to solve the problems. A listing of homework assignments, with due dates and exam dates with the chapters to be covered on the exam can be found on my website at [www.example.college.edu](http://www.example.college.edu). Solution sets for all homework, quizzes and exams will also be posted on my website 2-3 days after they have been turned in to me.

**VII. Evaluation and Grading**

- 10% Reading Quizzes
- 20% Homework
- 3% Diagnostic Exam
- 14% Regular Exam I
- 14% Regular Exam II
- 14% Regular Exam III
- 25% Final Exam (May 8, 2008, 2-5 pm, Building#1 room 140)

**Policy on grades of I (Incomplete):** The temporary grade of I (incomplete) is a conditional and temporary grade given when students (a) are currently passing a course or (b) still have a reasonable chance of passing in the judgment of the instructor, but for non-academic reasons beyond their control have not completed a relatively small part of all requirements. Incompletes will be given only when documentation has been submitted to support the need to receive an incomplete, i.e., medical statements.

### **VIII. Consultation**

My office is located in room 408 of Science and Research #1. My mailbox is located in the Physics office, room 617 in Science and Research # 1. My office hours will be from 1 – 2:30 pm on Mondays and Wednesdays.

### **IX. Bibliography**

References: Fundamentals of Physics, Halliday, Resnick, and Walker; The Feynman Lectures on Physics, R. Feynman, R.B. Leighton, and M. Sands

**Addendum:** Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call 713-743-5400 for more assistance.

It is each student's responsibility to read and understand the Academic Honesty Policy found in the Student Handbook, which can be found at <http://www.uh.edu/dos/hdbk/acad/achonpol.html>.

**Academic Dishonesty:** Please see following website for information regarding academic dishonesty. [www.uh.edu/honpol](http://www.uh.edu/honpol).

**Standard Disclaimer:** This syllabus is subject to change at the discretion of the instructor.