

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

CORE CURRICULUM COURSE REQUEST

RECEIVED NOV 27 2006

Originating Department/College: Physics/NSM

Person making request: James R. Benbrook Telephone: 713-743-3520

Dean's signature: [Redacted] Date: 20 Nov '06

APPROVED FEB 21 2007

I. General Information:

Course number and title: Phys 1321 University Physics I

Complete catalog description (NOT required if attached to CBM 003 form):

CBM003 form attached

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

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

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

Call 3-0919 for a copy of "Guidelines for Requesting and Evaluating Core Courses" or visit the website at 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?

CBM003 ADD/CHANGE FORM

Undergraduate Council
 New Course Course Change
Core Category: Nat Sci Effective Fall 2007

or

Graduate/Professional Studies Council
 New Course Course Change
Effective Fall

1. Department: Physics College: NSM
2. Person Submitting Form: James R. Benbrook Telephone: 3-3520
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: 0
4. Justification for adding/changing course: To provide appropriate foundation for course
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:
 / /
 - Content ID: Start Date (yyyy3):
6. Is this course offered for undergraduate credit only? Yes No
7. Authorized Degree Program(s): BA, BS in Physics
 - 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
 - Are special fees attached to this course? Yes No
 - Can the course be repeated for credit? Yes No
8. Grade Option: Letter (A, B, C...) Instruction Type: lecture
9. 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
 - Start Date (yyyy3): Content I.D.:
10. Proposed Catalog Description: (If there are no prerequisites, type in "none".)
Cr: 3 (3-0). Prerequisites: credit for or concurrent enrollment in MATH1432. Description (30 words max.):
Primarily for science and engineering majors. Credit may not be applied toward a degree for Phys1321 and PHYS1301. Mechanics of one- and two-dimensional motion, dynamics, energy, momentum, rotational dynamics and kinematics, statics, oscillations, and waves.
11. Dean's Signature:  Date: 20 Nov '06
Print/Type Name:

CORE CURRICULUM COURSE REQUEST
Supplementary Documentation
Phys 1321/University Physic 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. #516

FACULTY: Dr. Hungerford **OFFICE HOURS:** 1-2:30 pm MWF and by appointment
Science and Research #1, Rm. 408

E-mail: hunger@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:** MATH 1330, credit for or concurrent enrollment in MATH 1432. Credit may not be applied toward a degree for PHYS 1321 and either PHYS 1311, PHYS 2411 or 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 include the following topical areas:

1. Vector in Physics
2. Newtonian Mechanics: Motion in 1-D, 2-D and 3-D
3. Work and Energy
4. Momentum and Collisions
5. Noninertial Reference Systems
6. Rotational of Rigid Bodies
7. Gravity
8. Oscillations about Equilibrium
9. Waves
10. Fluids
11. Temperature and Ideal Gases

IV. Course Structure:

The web address for the class is <http://homer.phys.uh.edu>.

V. Textbooks

Physics for Scientist and Engineers, 3rd edition, by Fishbane, Gasiorowicz and Thorton, available at the UH bookstore.

VI. Course Requirements

A. Written Assignments: Homework problems will be collected each week on the assigned day. It counts toward your grade, but more importantly, it will help you understand the material. Indeed you should do many more problems than the 5 assigned each week. You may ask and receive any help you feel necessary to complete the homework assignment. Take advantage of the physics learning center located in S&R #1 room 416. Solutions will be posted on the class website.

B. Exams: There will be four **one hour exams** and a three hour **final exam** for a total of four exams for the class.

The **regular exams** are each worth 16% of your final grade for a total of 64% for the four exams. They will cover 2-4 chapters. Partial credit will be given.

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 and will be worth 20% of your final grade.

Evaluation and Grading

20%	Homework
16%	Regular Exam I
16%	Regular Exam II
16%	Regular Exam III
16%	Regular Exam IV
20%	Final Exam

Policy on grades of I (Incomplete): The grade of "I" (Incomplete) is a conditional and temporary grade given when a student, for reasons beyond his or her control, has not completed a relatively small portion of all requirements. Sufficiently serious, documented situations include illness, death in the family, etc.

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>.

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