

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 1301 Introductory General 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: NONE Effective Fall 2007

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

RECEIVED OCT 12 2006

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 / 1301 / Introductory General Physics I
 - Instructional Area / Course Number / Short Course Title (30 characters max.)
PHYS / 1301 / INTRODUCTORY GENERAL PHYSICS I
 - SCH: 3.00 Level: FR CIP Code: 40.0801.00 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):
 - 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 / 1301 / Introductory General Physics I
 - Start Date (yyyy3): Content I.D.: 281476
10. Proposed Catalog Description: (If there are no prerequisites, type in "none".)
 Cr: 3 (3-0). Prerequisites: Math 1330 or equivalent. Description (30 words max.): Primarily for majors other than physics and engineering, Credit may not be applied toward a degree for both Phys1301 and Phys1321. Elementary principles of mechanics and thermodynamics.
11. Dean's Signature: [Redacted Signature] Date: 6 Oct 06
 Print/Type Name: Jan Evans

**CORE CURRICULUM COURSE REQUEST
Supplementary Documentation
Phys 1301/Introductory General 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 1301 Introductory General Physics/11135

TIME: 2:30 - 4 pm TTh

LOCATION: SEC - Rm. #516

FACULTY: Dr. Rebecca Forrest **OFFICE HOURS:** 1-2 pm MWF and by appointment
Science and Research #1, Rm. 510

B

E-mail: rforrest@uh.edu

Phone: (713) 743-3507

FAX: (713) 743-3589

I. Course: Physics 1301 - Introductory General Physics

A. Catalog Description: Elementary principles of mechanics and heat.

B. Prerequisites: MATH 1330. Primarily for majors other than physics, mathematics, and engineering. Credit may not be applied toward a degree for both PHYS 1301:1302 and 1321:1322

II. Course Objectives: The objective of this course is Learn the principles of mechanics through application of Newton's laws a.

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

1. clearly understand and apply Newton's laws;
2. be able to apply basic physics laws to solve physical problems;
3. to develop the processes of logical thinking and scientific reasoning.

Other learning outcomes include:

1. Students completing this course will be able to convey knowledge of the basics principles of physics and be able to use these principles to solve elementary problems.
2. Students will be able to take a real life problem and use physical principles and basic mathematical tools to describe the problem.
3. Student will have the ability to communicate orally and in writing in a clear concise manner the concepts of Physics.

III. Course Content: This course will include the following topical areas:

1. Vector in Physics
2. Newtonian Mechanics: Motion in 1-D and 2-D

3. Work and Energy
4. Momentum and Collisions
5. Noninertial Reference Systems
6. Rotational Kinematics and Energy
7. Gravity
8. Oscillations about Equilibrium
9. waves and Sound
10. Fluids
11. Temperature and Heat

IV. **Course Structure:**

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

V. **Textbooks**

Physics, Third Edition, James S. Walker, available at the UH bookstore.

VI. **Course Requirements**

- A. **Warm up Assignments:** Reading assignments will be given 3-4 times during the semester. **Reading quizzes** covering the material from the reading assignment, consisting of 2-3 questions/problems, will be assigned over WebCt. 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 at the beginning of class. 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.
- C. **Exams:** There will be four **regular exams** and a **final exam** for a total of four exams for the class.

The **regular exams** will be given during the Friday examination period and the date of each exam will be announced one week in advance. They will cover 2-4 chapters and will consist of 2 to 5 problems each worth 10 – 20 points. 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.

VII. Evaluation and Grading

5%	Reading Quizzes
15%	Homework
14%	Regular Exam I
14%	Regular Exam II
14%	Regular Exam III
14%	Regular Exam IV
24%	Final Exam

Grading scale:

100-90%	A	79-70%	C	59%- below	F
89-80%	B	69-60%	D		

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 501-B of Science and Research #1. My mailbox is located in the Physic office, room 617 in Science and Research # 1. My office hours will be from 1 - 2 pm on Mondays, Wednesdays and Fridays. If you can not see me during those times, you may schedule an appointment with me by calling me at (713) 743-3507 or e-mailing me at rforrest@uh.edu.

IX. Bibliography

References: Physics, Algebra/Trig, Eugene Hecht; 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.