Physics 1401-A1

College Physics I

Blinn College – Bryan Campus

Fall, 2009

Instructor: Joseph Brinkley

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Office Hours: MW 10:30am – 11:30am

(Other times by appointment)

Tel: (979) 220-8588 (w/ voicemail)

Course Web Site: http://www.blinn.edu/brazos/natscience/jbrinkley/

Classroom Locations and Meeting Times:

Lecture	Lab
MW G214 7:45 – 9:00 am	MW G231 9:10 – 10:25 am

Course Description

A course designed primarily for students preparing for careers in architecture, biology, medicine, pharmacy and other fields requiring two semesters of physics. Topics covered include fundamentals of classical mechanics, heat and sound. *Prerequisites:* Two years of high school algebra with grade of "C" or better or Math 1314. Knowledge of basic trigonometry is also useful.

Core Curriculum Course

This is a course in the 42-hour Core Curriculum of Blinn College. Students will develop proficiency in appropriate intellectual competencies, exemplary educational objectives and general perspectives. The URL of the Blinn College core curriculum web site is www.blinn.edu/corecurriculum/42hourcore.htm.

Course Objectives and Student Learning Outcomes

Upon completing this course, students should be able to accomplish the following goals using algebra and basic trigonometry. Lecture and laboratory work will focus on these learning outcomes.

1. Apply the equations of kinematics for objects moving with constant acceleration in one and two dimensions.
2. Use vectors in solving physics problems.
3. Apply Newton's laws of motion to one- and two-dimensional linear dynamics problems.
4. Utilize the definition of work, the work-energy theorem and the principle of conservation of energy in solving physics problems.
5. Apply the principle of conservation of linear momentum.
6. Apply the equations of rotational kinematics for objects rotating with constant angular acceleration.
7. Apply the equations of rotational dynamics, including the principle of conservation of angular momentum.

8. Utilize principles such as Newton's law of universal gravitation, conservation of energy or Kepler's laws to solve problems in gravitation.
9. Describe selected properties of oscillations and waves.
10. Distinguish between the concepts of heat and temperature. Use the concept of specific heat in solving problems involving calorimetry.
11. Apply the concept of latent heat to problems involving phase changes. Describe various properties of ideal gases.
12. Recognize, explain and apply the laws of thermodynamics.

Laboratory work will be chosen to reinforce the above lecture topics. The student will demonstrate in the laboratory an understanding of the experiment through writing a report that analyzes the data and interprets the results.

Textbooks and other materials

- Required Textbook: James S. Walker, *Physics*, 3rd edition (Vol. I)

- Required Homework System: Students *must* purchase an access key to *MasteringPhysics*, the textbook publisher's online homework system. This is bundled with the textbook at the Blinn bookstore. Alternatively, the access key can be purchased online at www.masteringphysics.com; be sure to select the Walker text above to pair with *MasteringPhysics.* The *MasteringPhysics* CourseID for this section is: **BLINN1401A1FA09.**

- Required Laboratory Manual: *Physics 1401 Laboratory Manual*. Available for a nominal fee at the copy center on the first floor of the Bookstore Building on the Blinn campus.

- Lab Journal - Bound notebook with no perforated pages.

- A scientific calculator (Programmable calculators are not allowed during exams)

ADA Statement

Students with physical or learning disabilities must contact the Office of Disability Services (Room 157, Science Bldg.) to receive accommodation on exams and assignments. The Office of Disability Services will provide the student with an accommodation letter specifying the accommodations that are to be provided to the student. The student must present this letter to the instructor in order to receive accommodation. Accommodation is not retroactive.

Class Policies

Attendance

Blinn College believes that class attendance is essential for student success; therefore, students are required to promptly and regularly attend all their classes. If a student accumulates **one week** of unexcused absences, the instructor is required to report the student's unexcused absences in BORIS, at which time the student will be sent an e-mail warning. After **two weeks** of unexcused absences the student will be administratively dropped from all classes in which the unexcused absences are reported.

There are four forms of excused absence officially designated by Blinn College: (1) observance of religious holy days: The student should notify his or her instructor not later than the 15th day of the semester concerning the specific date(s) that the student will be absent for any religious holy day(s); (2) representing Blinn College at an official institutional function (3) official involvement in a high

school activity for “dual credit” students, and (4) Involvement in official military activities for members of the armed services. Other excuses will be considered and may be considered excused at the instructor’s discretion, with documentation. **Missing lecture or lab, counts as one absence. If a student misses both lecture, and lab periods for a given day; this counts as only one absence.**

Student E-mails

Students are assigned an e-mail address that must be checked regularly for official Blinn communications and course information. The address is of the form: *Firstname.LastnameLast2digitsBlinnID*@buc.blinn.edu. Information about accessing this account can be found at: Blinn College Student E-mail.

Dropping

If a student chooses to drop the course, it is that student’s responsibility to complete a drop order at the Office of Enrollment Services. Failure to do so could result in a grade of F in the course.

Eating and Drinking

Eating and drinking are not allowed during class or laboratory work.

Classroom Civility

Members of the Blinn College community, which includes faculty, staff and students, are expected to act honestly and responsibly in all aspects of campus life. Blinn College holds all members accountable for their actions and words. Therefore, all members should commit themselves to behave in a manner that recognizes personal respect and demonstrates concern for the personal dignity, rights, and freedoms of every member of the College community, including respect for College property and physical and intellectual property of others. Civility applies to attire as well as language and behavior. Please dress appropriately for the academic classroom and laboratory.

If a student is asked to leave the classroom because of uncivil behavior, the student may not return to that class until he or she arranges a conference with the instructor. It is the student’s responsibility to arrange for this conference.

Mobile Phones

All mobile phones must be turned off at all times while in the classroom or lab.

Scholastic Dishonesty

Blinn College does not tolerate cheating, plagiarism, or other acts of dishonesty. Definitions of these acts and procedures for dealing with them are described in “Scholastic Dishonesty” in the Blinn College Student Handbook, copies of which are available at the information desk in the Administration Building.

Description of Course Content and Tentative Class Schedule

The course will cover Chapters 1-18 in the text.

The material covered on the exams and tentative dates for the exams are as follows:

Exam	Material Covered	Date (tentative)
1	Chapters 1-5	Mon, Sep 21st
2	Chapters 6-9	Wed, Oct 12th
3	Chapters 10-14	Wed, Nov 9th
Final Exam	**Chapters 1-18**	**Mon, Aug 15th (7:45am-9:45am) (In room G231)**

Criteria for Grading: Grades will be based on labs, quizzes, Homework and exams.

- **Labs:** There will be a lab exercise most days. Students are required to keep a lab journal that will be graded periodically and there will be 8 lab reports and a final lab project submitted for grading.
- **Class Quizzes:** An in class quiz will be given everyday we meet; it will cover the material from the reading assignment and the Homework. Students' lowest 2 quiz grades will be dropped.
- **Exams:** There will be 3 midterm exams and a final. All exams will be closed-book and closed-note exams. Exams will be partially multiple choice and partially free-response ("show-your-work").
- **Homework:** Homework will be assigned for each chapter. The Homework will be completed through the *MasteringPhysics* website. Your course ID is **BLINN1401A1FA09**.
- **Grading summary:**

Midterm Exams	30%
Class Quizzes	10%
Homework	20%
Lab Reports	10%
Lab Journal	10%
Final Exam	20%

The grading system of Blinn College is as follows*:

A = 90	–100	Superior
B = 80	– 89	Above Average
C = 70	– 79	Average
D = 60	– 69	Passing
F =	< 60	Failing

*from Board Policy Manual EGA(LOCAL), issued 05/24/2004