

Course Information Sheet

College Physics 1

Physics 1401-A7

Blinn College – Bryan Campus

FALL - 2009

Instructor: Sam Gooding

Email: sdg5308@neo.tamu.edu

Tel: (210)-286-3705 (mobile w/ voicemail)

Office: G234

Office Hours: MW 6:30–7:00pm

(Other times by appointment)

Course Webpage: http://people.physics.tamu.edu/sgooding/Site/Physics_1401.html

Course information page: <http://www.blinn.edu/brazos/natscience/sgooding/>

Classroom Locations and Meeting Times

| Lecture | Lab |
|----------------|-------------------|
| Room (G214) | Room (G231) |
| MW 7:05-8:20pm | MTWRF 8:30-9:45pm |

Course Description

A course designed primarily for students preparing for careers in architecture, biology, medicine, pharmacy and other fields requiring two semesters of introductory 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.

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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.

- Apply the equations of kinematics for objects moving with constant acceleration in one and two dimensions.
- Use vectors in solving physics problems.
- Apply Newton's laws of motion to one- and two-dimensional linear dynamics problems.
- Utilize the definition of work, the work-energy theorem and the principle of conservation of energy in solving physics problems.
- Apply the principle of conservation of linear momentum.
- Apply the equations of rotational kinematics for objects rotating with constant angular acceleration.
- Apply the equations of rotational dynamics, including the principle of conservation of angular momentum.
- Utilize principles such as Newton's law of universal gravitation, conservation of energy or Kepler's laws to solve problems in gravitation.
- Describe selected properties of oscillations and waves.
- Distinguish between the concepts of heat and temperature.
- Use the concept of specific heat in solving problems involving calorimetry.
- Apply the concept of latent heat to problems involving phase changes.
- Describe various properties of ideal gases.
- Recognize, explain and apply the laws of thermodynamics.

Overall objectives for the course include the following:

- The student will maintain grade of **D** (60%) for completion of the course. This grade will include both lecture and laboratory components.
- The student will develop improved problem-solving skills.
- The student will develop an enhanced appreciation for the integration of physics and math and improved skill in interpreting the physical meaning of mathematical equations which occur naturally in the course.

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.

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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: **BLINN1401A7FA09**.
- 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.
- Non-Programmable (non-graphing) scientific calculator. Examples of acceptable calculators are the TI-30, TI-34, TI-36 and the Casio FX-250, FX-260 and FX-300.

Class Policies

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.

Attendance

Class attendance is essential for student success; therefore students are required to promptly and regularly attend all their classes. Faculty will require students to attend class regularly and will keep a record of attendance from the first day of class or the first day the student's name appears on the roster through final examinations. *** **On the fourth unexcused absence the student will be administratively withdrawn from the course.*****

There are three 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 and (3) official involvement in a high school activity for "dual credit" students. Other excuses will be considered and may be considered excused at the instructor's discretion, with documentation. ** **Any student wishing for an absence to be excused must email me by 3pm on the day of the absence explaining why the absence should be excused. In cases where it is not possible to email a phone call is required. Missing any part of lecture or lab counts as one absence. If a student misses both the lecture and lab periods for a given day, this counts as only one absence*****.

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Make-up work

Students will not be permitted to make up missed work except in extremely rare circumstances. Before any make-ups are permitted, students must provide the instructor with appropriate documentation. Permission to make up work will be granted solely at the discretion of the instructor.

Laboratory Work

Except for a few circumstances, you will have only one lab period in which to work on the laboratory experiments. Additional class time for working on these experiments will be given solely at the discretion of the instructor. This means that when you are working through the experiments, you should focus on making sure you have made all the required measurements and have recorded all the required data. Only after this is completed should you spend class time working through calculations called for in the experiment. If you do not complete the calculations in class, I expect you complete them outside of class. Lab journals should be kept by each student as a record of their work. Lab journals will not count as part of the lab grade.

Calculators

Programmable calculators and calculators with graphing capabilities will **NOT** be needed nor allowed in this class. The only allowed calculators will be those listed in the “**Textbooks and other materials**” section above. Violations of this policy will be considered to be an academic dishonesty matter.

Student E-mails

All Blinn students have been assigned a Blinn email address in the form Fristname.LastnameLast2digitsBlinnID@buc.blinn.edu Your initial password is your student id number. This e-mail account is accessed at <http://mail.live.com> It is the student's responsibility to regularly check this e-mail account. Any e-mail communication sent by the instructor or the college to this account is assumed to be received and is an official method of communication.

Eating and Drinking

Eating and drinking are **NOT** allowed during class or laboratory time.

Mobile phones, Laptop Computers and Electronic Devices

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

All the functions of all personal electronic devices designed for communication and/or entertainment (cell phones, pagers, beepers, iPods and similar devices) must be turned off and kept out of sight in all Blinn College classrooms and associated laboratories. Any non-compliance with this policy will be addressed in accordance with the Blinn College civility policy (Administrative Policy). Additionally, any communication understood by the instructor to be in the nature of cheating will have consequences in accordance with this Blinn college policy section regarding academic dishonesty [FLB (Local)]. Students exempted from this policy section include, active members of firefighting organizations, emergency medical services organizations, commissioned police officers, on-call employees of any political subdivision of the state of Texas, or agencies of the federal government. Exempted students are expected to set the emergency-use devices on silent or vibrate mode only.

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Dropping the course

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.

Civility Statement

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 the 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.

Dishonesty Statement

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.
- All exams will be during the class period and held in the regular classroom.
- The material covered on the exams and **tentative** exam schedule are as follows:

| Exams(tentative) | Material Covered | Date(subject to change) |
|--------------------------|------------------|-------------------------|
| 1 | Chapters 1-5 | Wed, September 23rd |
| 2 | Chapters 6-9 | Mon, October 19th |
| 3 | Chapters 10-14 | Wed, November 18th |
| Final Exam and Post-Test | Chapters 1-18 | Mon, December 14th |

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Grading policy

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|------------------------------------|--|
| Grade percentages will not change. | The grading system of Blinn College is as follows*. |
| Midterm Exams 15% | A=90-100 Superior |
| Homework 15% | B=80-89 Above Average |
| Class Quizzes 10% | C=70-79 Average |
| Lab Reports 10% | D=60-69 Passing |
| Final Exam 20% | F= <60 Failing |
| | <small>*from Board Policy Manual EGA(LOCAL), issued 05/24/2004</small> |

Grades will be based on labs, quizzes, homework and exams.

- **Labs:** There will be a lab exercise every day. It is highly recommended that you keep a lab journal that will be your record of all work done. No lab report grade will be dropped. A makeup lab will be scheduled to replace your lowest lab grade.
- **Class Quizzes:** At least one in class quiz will be given everyday we meet; it will be over the material from the reading assignment and the Homework. Students' lowest 2 quiz grades will be dropped.
- **Homework:** Homework will be assigned for each chapter. The Homework will be completed through the [MasteringPhysics](#) website. Your course ID is **BLINN1401A9SU109**. There will be free-response ("show-your-work") homework assigned.
- **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"). Every exam counts toward your final grade.

Required Materials

Text: James S. Walker, *Physics*, 3rd edition (Vol. I)
Laboratory Manual: *Physics 1401 Laboratory Manual*.

Recommended Materials

Class notes on the course webpage. The url is given on the first page of this CIS handout.