



Freshman Physics, grade 9

Text: Conceptual Physics 3rd edition

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Course Overview: Freshman Physics is a physical science course specifically for ninth grade students beginning their high school science curriculum. The course will expand the students' understanding of motion, properties of matter, sound, light, electricity and magnetism, all presented without requiring extensive mathematical background. All topics will incorporate basic scientific practices and methods. Projects, both individual and group, laboratory experiments, research, and other group activities will all be an integral part of the program. This program will provide a good foundation for future science courses.

Learning Objectives:

The main objective of this course is to excite students about the wonders of science while giving them the background to succeed in future science courses.

Physics is fundamentally an experimental science. The theories, laws and mathematical descriptions of the physical universe that have been created during the past 3000 years are based on the experience and observations of our ancestors. This introductory physics course will integrated lecture and laboratory are so that the understanding of physics is enhanced by class discussion, personal reflections, observations, and experiments. We will concentrate on examples and applications to real world situations. Although we will present topics in physical science, chemistry, earth and space science, and even some applications to life science, this course is essentially an applied introductory physics course without the extensive math that is used by the juniors and seniors in our college level physics course. The critical question in this course is not, "What do you know?" but rather, "How do you know what you know?"

Students will be expected to design and conduct experiments and devise projects. In addition, they will share with and sometimes compete with other members of their class. Students will be expected to participate in group activities, research topics, use some simple (and sometimes very sophisticated) tools to collect and analyze data, discuss results and interpret the observations they have made. They will be challenged to make connections, solve problems, wrestle with contradictions, learn some historical background and distinguish between real science and pseudo (fake) science. They will learn how scientists think, and in doing so, they will come to know and own the questions of science and technology.

Students will see how science directly or indirectly impacts virtually everything in the world around them, and how science affects them, now, and in their future. We will utilize all available resources to provide students with an atmosphere that is conducive to learning, so that they can be successful in their comprehension, and grow as an informed citizen in society.

Grading

Your grade will be based on professional judgment of your work using the following weighting scheme as a guide:

Tests	25%
Homework	20%
Labs	25%
Classwork	20%
Participation	10%
Total	100%

- Honors Only- 4th quarter grades will reflect the research project as 50% and the above average as 50%.

Tests

There will be several announced full period tests during each quarter and a two- hour comprehensive final exam given every semester. Questions on these exams will be based primarily on course assignments. Emphasis will be based on the demonstration of the ability to apply concepts and techniques to new situations. The instructor will also draw material for the exams from assigned problems, lab activities and oral presentations. Students are required to take exams at the appointed time. If you are absent on the day of a test, you will be expected to make it up on the day of your return.

Quizzes

Unannounced quizzes may be given at any time and are given all the time. Sometimes several are given during the same class period. They will cover material in homework, lab, or lecture. These quizzes will vary in points and is a portion of the class work grade. There will be no make-ups for some of these quizzes. See handbook for exceptions. Your best assurance for doing well on quizzes is to come to class prepared.

Lab Activities

Both activity and formal written labs will be assigned. In the lab you will be using activity sheets, which will be handed out at appropriate times. The entries on these handouts must be in your own words. Although you may use the same data and graphs as your partner(s) and discuss concepts with your classmates, all entries should reflect your own understanding of the concepts and the meaning of data and graphs you are presenting. The instructor will evaluate your entries.

Formal Laboratory Reports

The format and rubric for these labs will be given at a separate date. Formal labs are weighed more heavily than activity labs due to the extensive amount of work required.

Classwork

During class and lab sessions your willingness to discuss ideas with classmates, devise clever ways to measure and observe things, and make brief presentations using the board and other media in the front of the room are important aspects of your class participation in the course.

You are expected to be participating actively in class and lab sessions at all times.

Homework

There is a strong correlation between the steady effort needed to successfully complete homework problems and high performance on examinations. Each problem assignment is to be available for submission at the beginning of the class session on the date that it is due. (Assignments will be given regularly and can be found on the board). No late assignments will be accepted. See handbook for exceptions.

The problem solutions should be submitted on an 8 1/2 x 11" sheet of paper headed with your name, the date, the period and the assignment summary. In order to get full credit for a problem, the solution should contain a diagram of the physical situation, a brief written description of the situation and/or calculations.

Other problems will be given on-line. The computer only scores answers but your success will require you to follow problem solving guide lines that include writing out your work.

NOTE: Homework assignments may not be handed in late. Lab reports and projects are due as scheduled. Late labs will be proportionally penalized!!! One- day late drops one letter grade. Two days late drops to 50%. Assignments more than 2 days late will not be accepted. "My printer was out of ink." "There is something wrong with my computer." "I didn't have my book... notebook,,, calculator...at home." "I had a concert last night" "I was in the play" "I left it in my locker." ARE NOT VALID EXCUSES!

Absences

(WRHS- has an attendance policy - make sure you are aware of the consequences of frequent absences.) Any absence from class can give a student some difficulty in maintaining their average. **Making up missed work is the responsibility of the student. The student needs to make every effort to find out the homework assignment and what material was covered in class.** During the first few days of school you will be asked to exchange phone numbers with a homework buddy. If you're absent be sure to get make up information and from your buddy. If an assignment or project is due on the day a student is absent, the student must make every effort to send the assignment (project) in with a friend or a sibling or at very least get it to me BEFORE school the next day. All other work missed during a day of excused absence including quizzes, homework and labs must be made up within 2 days. Make up work is **your** responsibility.

Academic Honesty

You are encouraged to discuss and debate the ideas in any assignment with your teacher, lab partners, team members and other classmates. If you work on assignments cooperatively, rather than independently, you may share ownership of a spreadsheet, graph and diagram files. However, any written assignment must be expressed in your own words and reflect your own knowledge. Thus **you may not copy (even with modifications) problem solutions, activity sheet entries, or materials on examinations and/or quizzes.** If there is reasonable evidence of copying, it will be construed as an act of plagiarism. In such cases, high school rules regarding academic dishonesty will be followed. A -100% will be given for the assignment and a 0% may be earned at the teacher's discretion. This policy is also followed in regards to cheating or talking during (before and after) a test period.

Required Materials

1. TEXT: CONCEPTUAL PHYSICS; 3rd Ed. (1999) Hewitt
2. 3 ring binder (1" - 1 1/2")
3. 5 Dividers
journal/homework/labs/test/equation
4. Clear plastic ruler
5. Scientific calculator
6. Writing utensils
7. Homework account - WebAssign
8. Mind, body and spirit ready to learn
9. Marble Notebook (Honor's only)

Classroom Expectations and Responsibilities

WHAT YOU CAN EXPECT FROM ME:

- To be prepared and on time
- To be respectful
- To have a positive attitude
- To teach to the best of my ability
- To be available for extra help
- To provide a learning environment for every student
- No homework on holidays!

WHAT I EXPECT FROM YOU:

- To be on time and in your seat when the bell rings
- To be prepared for class (agenda, assignments, notebook, text, calculator, ruler, pencil)
- To be respectful (teachers, substitute teachers, all staff, & each other)
- To have a positive attitude
- To be on task and work to the best of your ability
- To follow directions first time given
- To understand that you are part of a learning environment

OUR BENEFITS

- A pleasant atmosphere will be created
- Comfortable communications will take place between all of us
- Each of us will be allowed to strive to reach our maximum potential

CONSEQUENCES FOR INAPPROPRIATE BEHAVIOR:

- Classroom disruptions will be dealt with in a quick and consistent manner.
- Warnings may be given as well as retentions both after class and after school.
- A parent/ guardian may be contacted
- A member of administration may be contacted

We must work together to have a successful year!!!