

Conceptual Physics 2010-11

Instructor	Mr. Greg Lowe
Web Site	www.greglowe.com
Text Book	<i>The Physics Laboratory</i> by Marcus Milling Online ebook text for the 2009-10 school year www.thephysicslaboratory.org
Periods	Period 7 & Period 8

Welcome to Conceptual Physics! The subject of physics must be understood rather than memorized. You will find that consistent preparation, careful observation, and reflection upon your discoveries will help you make the connections that are vital to creating a deep lasting understanding of nature. In “Conceptual Physics” we focus more on the concepts than the math, and provide for an environment where students come away with a much better *conceptual* understanding of nature than before they enrolled in the class. We also try to make physics accessible to even the students who normally avoid science classes. Translation: we try to make physics FUN!

You should come to class each day equipped paper, something to write with, as well as your lab notebook. You must purchase a half-inch three-ring binder to serve as your lab notebook. We will provide hard copies of lab guides that you will collect in your notebook.

<u>Quarter Grades</u>	<u>notes</u>
Tests 30%	Two per Quarter
Quizzes 15%	Approximately four per quarter, with lowest score dropped
Homework 14%	Usually every night something is assigned
Lab Work 35%	Broken down into several categories
Participation 6%	Lecture & discussion activities (follow class rules)

Further Breakdown:

30% Tests

Test 1	15%
Test 2	15%

(Sign the science contract, and your better score is 20%, lower is 10%)

15% Quizzes

14% Homework

Worksheets	7%
Online Homework	7%

Approximately split 50-50:

35% Lab Work

Lab written work	15%
Focus, involvement, follow rules	10%
Lab quizzes/practicals	10%

6% Lecture Participation (using Active Expression handheld devices)

Classroom shenanigans will cause a subtraction from this 6%

Classroom Activities - Our class time will be broken down into four major categories:

1. Lecture & Discussion
2. Lab Work
3. Homework & online activities
4. Assessment

1. Discussion / Lecture Students are expected to be *in their seat* (a seating chart will be used) when class begins and have paper & writing equipment on desk. They will be quietly working on the warm-up problem. They must do their own work and not talk to others. After warm up portion is completed and we are not doing lab, students are expected to take notes, ask questions, and listen while others talk. Students are expected to raise their hand if they have something to ask or add to the conversation. In a 2-week period, expect 2 or 3 of those 8 days to be in this format. Students will be prompted to answer questions during the discussion and enter their answers into their Promethean handheld devices (6% participation section of grade).

Two types of questions will be displayed on the front board: PQ & RQ

- PQ – A question that prompts the student to think about something new and give their best answer. You get credit for attempting the problem.
- RQ – A “real” question. This is usually from something you have already seen and you are given the opportunity to show that you have mastered the material.

2. Lab Work This is perhaps the most important component of your 9th grade Physics class. Labs are designed so that you can make observations about the world in which we live and then draw conclusions based on your observations. Instead of the teacher *telling you* what something does, at The Bishop’s School, we believe that you will have a much greater understanding of nature by *observing* what it “does”. What kind of patterns do you see? What conclusions can you come up with based on the patterns? Can you formulate some of the laws of nature based on your observations? We believe you can. And don’t worry, because even when it gets challenging, you will have a teacher ready to assist you in your observations (note: we will not simply give you the answer!). You also work with a new partner each lab, and between the two of you, you should be able to solve nature’s mysteries!

- 15% = lab write ups (answering questions in the labs, drawings, etc.)
- 10% = How well you work in the lab environment. Only talk to lab partners, put equipment away, treat equipment with care, follow instructions in each lab, and don’t fake your answer and put in something you didn’t truly observe!
- 10% = Lab quizzes and practicals will be based on lab work. Some will be in class, some at home online. You will be allowed to use your lab write-up on the lab quizzes.

\$ Purchase = One 3-Ring Binder that is ½ inch thick. You will keep all Labs in this.

3. Homework and Online Activities

Expect homework every night in Conceptual Physics. Most nights you will have 3-10 questions online. If you don’t have access to a computer, then it is your responsibility to use a school computer to answer your questions. Sometimes you will be given a worksheet to work on at home. These worksheets reinforce labs and discussion material. When they are due you are expected to have them on your desk and completed when the class starts. Sometimes you will be assigned your lab write-up for that night, and if the lab is particularly long, you could get multiple days to complete it. ***Homework assignments will be posted on planner. It is your responsibility to check and complete the assignments due for each class even if they are not verbally mentioned in class. You have until the following day at 3:30 to complete them.***

4. Assessment

assessment |əˈsɛsmənt|

noun the evaluation or estimation of the nature, quality, or ability of someone or something
(the “something” is YOU!)

Tests: A test is much different than a quiz. There will be 2 tests during each quarter. The first is 15% of the quarter grade, the second is also 15%. However, if you sign the *science contract* and meet with me to go over it one-on-one, I will weigh your better score 20% and your lower score 10%. What is the science contract? *That’s a good question. Ask!*

Expect some of the major points & concepts to carry over from the first test to the second test, so if a student does poorly on important ideas on the first test, they will get another chance to show that they have studied that material and have gained a better understanding on the second test.

Online Quiz: These are designed for you to get ready for real quizzes and tests. They will usually cover material that reviews major ideas that we are trying to master and that will be on any upcoming Quiz or Test.

In-Class Quiz: These are taken at the beginning of class. They usually last 10-15 minutes. There will be a time limit. Not nearly as stressful as a Test, and some may think these are easier than Tests. They will be announced ahead of time.

Classroom Expectations

We strive to have an environment that will best support learning in the classroom. I respect that students have different learning styles. You will see that most of the different learning styles will be experienced in this class. I have a few rules that I ask everyone to follow. Repeated failure in this regard will have a significant impact on your grade and also merit a parent conference.

I expect all students to be in their desk and working on the warm-up question when the class starts. I expect every student to come prepared with something to write with, something to write on, and their class notebook.

Lecture / Discussion:

- Raise your hand if you want to contribute to the conversation or ask a question.
- Absolutely no gum, food, drinks in the classroom.
- Never leave your seat during lecture/discussion without permission.
- Never leave the classroom during lab.
- Any conversation that is off-topic will not be allowed.
- Any questions about grades, how I graded your work, or test dates & quiz dates are not allowed in class. Come see me after school or send me an email to discuss this.
- Push all chairs back in under desk

In Lab:

- It is OK to be standing or moving around when working with your lab equipment.
- Treat your equipment with respect! Guard against damaging items.
- Put all equipment back, and leave the class in better shape than you found it.
- Work with your partner only. Do not discuss anything with other lab groups.

I respect the school guidelines, and especially the ones regarding no cell phones between 7:30 – 2:30. I will take your phone and then when I find the time, turn it in. You have been warned.