

# Newark Catholic High School

## Physics

### Links

[Mr. Nelson's Homework Solution Page](#)  
[Diocese of Columbus Science Course of Study](#)  
[Ohio Department of Education Science Model Curriculum](#)

## Syllabus

Physics 2011-2012

### Teacher

Russell Nelson  
Room: 207

### Text

*Glencoe Physics: Principles and Problems* by Paul W. Zitzewitz. Glencoe/McGraw-Hill 2002.

### Extra Resources

Newark Catholic website <<http://www.newarkcatholic.org/academics/individual-courses/>> (Select Physics)

### Goals

The objectives for this course are listed on the last page. In addition to these objectives I will teach you skills and techniques you will need to be successful in college. We will explore various learning techniques. This will allow you to find the ones that fit your learning style.

### Aptitude, Persistence and Success

I can not stress enough the importance of hard work. A quote from Dr. Bruce Mainland, Physics professor at OSU Newark, describes the importance of hard work.

...Your aptitude is determined by your genes and your environment. Of course, you had little control over your environment during your formative years, and you never had any control over your genes. You, however, control your persistence: how long you are willing to work and how hard you are willing to work...

I have found these words to be true. Here is a quote from Isaac Newton that reflects the importance of persistence.

“I keep the subject constantly before me and wait till the first dawns open little by little into the full light.”  
Isaac Newton

### Eight Keys to Success in a Technical Course

The two most important keys to success are as follows:

1. Be able to work every homework problem quickly and correctly before taking a quiz or test.
2. Learn to apply the basic concepts and do not just memorize solutions to specific problems. Test problems are almost always different from homework problems, but they require mastery of the same concepts.

Six additional keys to success are as follows:

3. Read the assignment.
4. Review each lecture the same day it is given.
5. Study physics almost every day rather than for longer periods several times each week.
6. Attempt every homework problem in each assignment. Try to do homework problems the same way you would do test problems. Try not to look back in the text, and try to use formulas from memory.
7. If a formula is used to solve a problem, immediately either memorize it or learn to derive it. Keep a list of key formulas for each chapter, and review the list before going to bed each night.
8. Have a perfect copy of each homework assignment within one day after the problems have been covered in class.

### Test Hints

1. For each test problem write the formula, substitute numbers into the formula and write the answer.
2. If you can not work one part of a problem but need that answer to work successive parts of the problem, represent the answer you can not find with a symbol. Work the remainder of the problem using the symbol.
3. Never initially spend more than a few minutes on a test problem when you are "stuck". Work everything else on the exam before coming back to the problem you can not solve. Sometimes the solution will occur to you while you are working on another part of the test.

### Grading Procedure and Scale

Quarterly grades will be determined on the basis of total points. Scores will be based on test, quizzes, homework, and labs. All work must be turned in on the due date in order to receive full credit. Late work credit will be reduced by 25% for each class day beyond the due date. I will be using the standard grading scale as follows:

A	100-93	C+	79-77	D-	62-60
A-	92-90	C	76-73	F	Below 60
B+	89-87	C-	72-70		
B	86-83	D+	69-67		
B-	82-80	D	66-63		

Total points available per quarter will vary. The following is a guide for the ratio between the various assignment types.

Homework	15%
Quizzes	15%
Test	60%
Labs	10%

### Class Rules

All school rules apply and in addition to these rules are the following:

1. Be Respectful (of self, others, facility, teacher, ect)
2. Be Prepared (book, calculator, writing utensil, ect)
3. Be Persistent (work hard, ask questions, form study groups, ect)

### Objectives

The objectives of this class follow the Columbus Diocesan Course of Study and the Ohio Department of Education High School Science Model Curriculum. You can find these on the Newark Catholic website

<<http://www.newarkcatholic.org/academics/individual-courses/>> (Select Physics)

### Assignments

Physics is an upper level class usually taken your senior year. As such the class will be structured differently from most classes taken in your high school career. New content will usually begin with a lecture followed by demonstrations and videos. Homework assignment covering the new content will be given with the lecture. There will be a due date for the assignment and it is up to you to manage your class time and out of class time to complete the assignment. You can choose to do all of the assignment the night before (bad idea) or all of the assignment the first night (bad idea) or divide the assignment and work on parts nightly (best idea).

Extra credit will be given for study table attendance. (2% of total points available)

Each quarter I offer extra credit (1% of total points for the quarter) for the following supplies. Tissues, Hand Sanitizer, Dry Erase Markers, or Clorox Wipes. (Limit once per quarter)

I encourage working in teams. There is a difference between cooperation and copying. Working through a difficult problem with a friend is cooperation (and the way you will work in the "real world"), getting the solution to a problem from a friend and just writing it down is copying. You are ultimately responsible to know all the content for the test.

Good Luck!

I look forward to a fun and exciting year!

Mr. Nelson