

## Simple Assessment Exercise Guidelines

### PHYS 310 – Readings for Teaching High School Physics

In this exercise you will develop a paper-and-pencil test. The test should be based on (a minimum of) 12 student performance objectives, each of which describes an observable task in relation to a learning target. Consistent with these objectives, select a topic area from physics consisting of one or two related chapters of a standard high school physics textbook (a unit) and create a simple assessment that includes graphics as appropriate. Assess according to your student learning objectives. Avoid trivial, frivolous, and freebie questions.

The simple assessment (test) should consist of the following:

- ★ **Multiple-choice questions** (1 point each)
- ★ **Multiple-choice questions** (2 points each) that focus on some simple solution of an exercise, typically the solution of an equation.
- ★ **Free-response questions** (4 points) that require a rather more complex solution of a problem such as a two-step problem in which some ingenuity is needed. These questions

Demonstrate that you have learned the content of your associated reading assignment in *Teaching High School Physics* (e.g., include tasks inspired by physics education research).

Start with the name of the course, instructor name, the class period, and name of student across the top of the page.

Include directions at the beginning of the test and/or each section of question types (e.g., This is an open-book, open-notes test. You may not use the Internet or communicate with others. Watch your units! Circle the letter of the best answer among the multiple-choice questions. Circle the answers to your written problems. When solving problems, show all your work including initial equations and units. No work, no credit!)

Lead off each section with question type and point value such as:

- Multiple-choice questions (1 point each):**
- Less complex problems (2 points each):**
- More complex problems (3-4 points each)**
- Extra Credit (5 points)**

Number all questions sequentially, and format appropriately. Use the following approach:

1. How much charge is on a  $10\mu F$  capacitor if it has been charged with a 50-volt DC power supply?
  - a.  $50C$
  - b.  $0.5C$
  - c.  $0.0005C$
  - d. None of the above is a correct response.

The test should be worth 25 points, but may include a few additional points for extra credit.

Develop an answer key and turn in with your test.