

To: Jr Physics Majors.

One of Wittenberg's graduation requirements is that all students are required to successfully complete an assessment of academic achievement in their major. The assessment process for Physics has two parts: one focusing on core concepts, and the other focusing on problem solving. Both are described below.

### 1. Conceptual

The conceptual part of the assessment is given early in the second semester of the junior year. We'll determine the exact date at the beginning of next semester, but it'll most likely be in late January. The exam includes multiple-choice and short answer questions on physics concepts from the first four semesters of the physics major curriculum: Physics 200, 213/214/215, 218, and 220. If you haven't had all of these classes yet, you'll take only the sections for which you've already taken the corresponding class, and then you'll take the remaining section(s) in the fall.

The exam will take about two hours. An overall score of 70% is required to pass. A non-passing score means the student will be required to give his/her next seminar presentation on a topic determined by faculty, based on which area of the conceptual exam performance was the weakest.

In studying for the conceptual exam, you may find it helpful to look at conceptual questions on past course exams and the Stop to Think questions in your intro textbooks.

### 2. Problem solving

For the problem solving part of the assessment, you'll be given a problem on a topic related to one of your previous Junior Seminar talks. We'll also provide an example of a model presentation and a copy of the rubric to be used in the evaluation. At a later seminar meeting, you'll give a presentation of the solution to your assigned problem. The presentation is evaluated by faculty using a rubric focusing on quantitative problem-solving skills. If the presentation is judged to be unsatisfactory, the student must redo the presentation slides in order to bring the work up to a satisfactory level.