

## **Physics Department Undergraduate Assessment Plan**

### **University Mission**

Wichita State University is committed to providing comprehensive educational opportunities in an urban setting. Through teaching, scholarship, and public service, the University seeks to equip both students and the larger community with the educational and cultural tools they need to thrive in a complex world, and to achieve both individual responsibility in their own lives and effective citizenship in the local, national, and global community.

High quality teaching and learning are fundamental goals in all undergraduate, graduate, and continuing education programs. Building on a strong tradition in the arts and science, the University offers programs in business, education, engineering, fine arts, and health professions, as well as in the liberal arts and sciences. Wichita State has 113 degree programs that range from the associate to the doctoral level; non-degree programs are designed to meet the specialized educational and training needs of individuals and organizations in south central Kansas.

Scholarship, including research, creative activity, and artistic performance, is designed to advance the University's goals of providing high quality instruction, making original contributions to knowledge and human understanding, and serving as an agent of community service. This activity is a basic expectation of all faculty members at Wichita State University.

Public and community service activities seek to foster the cultural, economic, and social development of a diverse metropolitan community and of the state of Kansas. The University's service constituency includes artistic and cultural agencies, business and industry, and community educational, governmental, health, and labor organizations.

Wichita State University pursues its mission utilizing the human diversity of Wichita, the state's largest metropolitan community, and its many cultural, economic, and social resources. The University faculty and professional staff are committed to the highest ideals of teaching, scholarship, and public service, as the University strives to be a comprehensive, metropolitan university of national stature.

### **Program Mission**

The mission of Wichita State University is not merely that of a trade school, but to provide “comprehensive” education. A good university education teaches students to think critically, and to use the wisdom of the past to understand the present and to develop a vision for the future. Physics is an essential part of this goal. Physics can be defined as the attempt to understand the behavior of matter and energy in terms of a few general laws or principles. Physicists try to understand the cosmos, all the way from stars and galaxies down to the elementary particles that make up nuclei and atoms. The laws of physics und





enrollment in 151 this semester was only 3. Many are probably deciding to take the easier

Unfortunately this exam does cost almost \$200 to take, and this may well be an expense many who were not planning on going to graduate school immediately cannot afford. If we cannot find the money to cover this for our students we can construct a number of similar exams from preparation books, and administer it ourselves.

### **Results**

We have no results yet.

### **Feedback Loop**

Since this process is new to us, we have not yet finalized either the assessment instrument or its method or standards of analysis. For the coming semester we will administer, as both pre- and post-test for 111, and as pre-test for the 200 and 300 level, the Force Concept Inventory. Our committee will construct preliminary versions of the post-tests for the 200- and 300-level courses from AP Physics tests. In May of 2005 we will meet as a faculty to discuss the results. Our analysis will provide important data for the committee of four, which will have been working on the design of the five examinations and the databases we will need for their administration. It will also, we hope, provide us with important information about how we can better teach our courses.<sup>1</sup>

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<sup>1</sup> Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66, 64-74.

Can be accessed from:

<http://scitation.aip.org/dbt/dbt.jsp?KEY=AJPIAS&Volume=66&Issue=1>