

DEPARTMENTAL PLAN FOR ASSESSMENT OF STUDENT LEARNING
2004-2005 ACADEMIC YEAR

Department: Physics

Program: Bachelor of Science

Mission Statement

The primary functions of the Physics Department are teaching, research and service. In accordance with the mission of the University, the department provides courses for physics majors and minors, and service courses to students in other programs in the College of Arts & Sciences and other units of the University.

Student Learning Goals

Student Learning Goal 1: **Provide student with quality instruction in physics.**

Objective 1.1: Students will acquire a knowledge base in physics, including Newton's Laws and applications, Maxwell's equations, and the basic laws of thermodynamics.

Objective 1.2: Department will provide good quality instruction through traditional lectures, and/or modern instructional technology and methods.

Student Learning Goal 2: **Provide students with the discipline's tools and practical experience in physics.**

Objective 2.1: Students will be able to use their knowledge base to solve physical problems.

Objective 2.2: Students will gain hands-on laboratory experience.

Student Learning Goal 3: **Contribute to the student's general education.**

Objective 3.1: Students will practice analytic and critical thinking.

Objective 3.2: Students will practice written communication skills.

Student Learning Goal 4: **Preparing students for their career goals.**

Objective 4.1: 1 Department will help students realize a broad range of physics related career goals.

Objective 4.2: Students will gain research experience in physics.

Student Learning Goals and Program Objectives	Educational Experiences	Assessment Methods	Timeline	Responsibility	Use of Results and Process of Documentation and Decision Making
1. Students will acquire a knowledge base in physics, including Newton's Laws and applications, Maxwell's equations, and the basic laws of thermodynamics.	Physics 251, 252, 253, and upper division courses	Average examination scores, samples of student work, student interviews.	Test scores and samples each semester, interviews annually.	Instructors, Undergrad Committee.	Annual recommendations to the Department. Departmental records, annual evaluations.
2. Students will be able to use their knowledge base to solve physical problems.	All physics courses taken by majors				Adjustments to level and type of examinations homework etc.
3. Students will gain hands-on laboratory experience	Physics 251, 252, 253, 325, and 428	Lab reports, examination questions	Each semester	Main course instructors	Upgrading equipment, editing manuals
4. Students will gain research experience in physics	Physics 415 and 492	Reports and informal papers	As students enroll in these courses	Faculty research advisors	Modify student research topics and expectations.
5. Students will practice written communication skills	Courses requiring lab reports, homework, and formal papers	Sample and evaluate papers and reports	Each semester	Course instructors	Students referred to writing center as appropriate

<p>6. Department will provide good quality instruction through traditional lectures, and/or modern instructional technology and methods.</p>	<p>All classroom-based physics courses</p>	<p>a) Student evaluation, b) faculty peer evaluations of lectures c) Student survey</p>	<p>Peer evaluations annually, student evaluations per semester</p>	<p>a) Instructors, b) Department Lecture Assessment Committee. c) Undergrad Committee.</p>	<p>Adjustments made to teaching assignments. Feedback used to modify new methods.</p>
<p>7. Students will practice analytic and critical thinking.</p>	<p>All physics courses</p>	<p>Average exam scores, samples of student work, annual interviews</p>	<p>Each semester</p>	<p>Instructors Interviews by Undergrad Committee</p>	<p>Adjust pedagogy Modify curriculum</p>
<p>8. Department will help students realize a broad range of physics related career goals.</p>	<p>Individual tracks in the multi-track program, special advisement</p>	<p>Student exit survey Alumni survey</p>	<p>Each student graduating ~ each ten years or so</p>	<p>Undergrad. Committee Faculty Student Advisors</p>	<p>Adjustments to curriculum and course content, planning for new faculty hires. Revise tracks.</p>