Major Field Assessment:
Evaluation and Outcome
B.S. Physics 2000-2003

The purpose of the B. S. in physics is to prepare students for either graduate study in physics or other fields that require considerable scientific knowledge and laboratory experience or for employment in industry. To achieve this purpose the physics curriculum has three goals: to provide students with knowledge in the field of physics, to develop in students a comprehensive understanding of the professional aspects of physics, and to prepare students for career-based employment or graduate study.

Evaluation

Goal 1 To provide students with knowledge in the field of physics

It is expected that students completing the undergraduate program in physics will compare very favorably on a national basis with other seniors graduating in physics in their ability to demonstrate problem-solving and laboratory skills in the areas of classical mechanics, thermodynamics, electricity and magnetism, optics, special relativity, quantum mechanics, and statistical mechanics. To assess the success of the curriculum in producing this outcome, the Educational Testing Services physics field assessment was administered to graduating senior physics majors. The standards for student achievement were set in three-tiers based on a student's cumulative grade point average (GPA). In the lowest tier (2.00-2.75 GPA), the expectation was that 75% of the students in this tier would perform above the 33rd percentile nationwide. The result for this reporting period is that there were no students in this tier. In the second tier (2.75-3.5 GPA), the expectation was that 75% of the students would perform above the 50th percentile nationwide. The result for this reporting period is that 100% of students in this tier performed above the 50th percentile. In the highest tier (3.5-4.0 GPA), the expectation was that 75% of the students would perform above the 66th percentile nationwide. The result for this reporting period is that 0% of the students performed above the 66th percentile. In discussing the failure of the students in the highest tier to meet expectations in this assessment, the faculty noted that the students did perform well on the test; all of the students exceed the 50th percentile. Those students' knowledge of physics is better than the majority of their peers. Since this is an acceptable outcome, it was decided that the expectations stated above were set too high and the following revised expectations will be used in future assessments: Tier 1 – 50% above the 33rd percentile, Tier 2 – 50% above the 50th percentile, Tier 3 – 75% above the 50th percentile.

It is also expected that graduates will respond favorably to the physics curriculum and overall learning environment. To assess the success in producing this outcome, the Southeastern Exit Survey was administered to graduating senior physics majors. The expected outcome was that 90% of the graduates would indicate satisfaction. The result for this reporting period is that 100% of the students were satisfied. No changes are planned with respect to this assessment.

Goal 2 To develop in students a comprehensive understanding of the professional aspects of physics

It is expected that students completing the undergraduate program in physics will demonstrate awareness of the diverse nature of physics and its applications as a body of knowledge and the importance of participation in professional societies, professional meetings and undergraduate research in the field of physics. To assess the success in producing this outcome, the Southeastern Exit Survey was administered to graduating senior physics majors. The expected outcome was that 80% of the graduates would indicate that they were given opportunities and support for attending professional physics meeting while at Southeastern. The result for this reporting period is that 100% of the students did indicate that they were provided with these opportunities. No changes are planned with respect to this assessment.

Goal 3 To prepare students for career-based employment or graduate study

It is expected that one year after graduation, the majority of graduates will have career-based employment or will be in graduate school. To assess the success in producing this outcome, a survey was taken one year after the students' graduation. The expected outcome was that 60% of the graduates would be enrolled in graduate school or would bin employed in a technical industry. The result for this reporting period is that 80% of the graduates are enrolled in graduate school or would bin employed in a technical industry. No changes are planned with respect to this assessment.

Outcome

As a result of this assessment, the faculty are satisfied that the physics curriculum is meeting its goals of provide students with knowledge and understanding of the science and profession of physics and to prepare students for scientific or technical careers. No changes in the curriculum are planned at this time.

GOAL ATTAINMENT FRAMEWORK

B.S., Physics
Department of Physics and Physics

For Academic Years 2000-2001, 2001-2002, 2002-03

Expected Outcome	Much Less than Expected	Less than Expected	Expected	More than Expected	Much More than Expected
% of graduates with a cumulative GPA of 2.00-2.75 scoring above the 33rd percentile on the ETS Major Field Achievement Test in Physics			N/A 75%		
% of graduates with a cumulative GPA of 2.75-3.50 scoring above the 50th percentile on the ETS Major Field Achievement Test in Physics			75%		100%
% of graduates with a cumulative GPA above 3.50 scoring above the 66th percentile on the ETS Major Field Achievement Test in Physics	0%		75%		
% of graduates satisfied with their physics instruction, as indicated on the Southeastern Exit Survey			90%		100%
% of graduates who feel they were given opportunities and support for attending professional physics meetings while a student at Southeastern as evidenced by the Southeastern Exit Survey			80%		100%
% of graduates who have career employment or will be enrolled in graduate school as evidence by the Southeastern Physics Post Exit Survey			60%	80%	

GOAL ATTAINMENT FRAMEWORK (REVISED)

B.S., Physics
Department of Physics and Physics

For Academic Years 2003-2004, 2004-2005

Expected Outcome	Much Less than Expected	Less than Expected	Expected	More than Expected	Much More than Expected
% of graduates with a cumulative GPA of 2.00-2.75 scoring above the 33rd percentile on the ETS Major Field Achievement Test in Physics			**50%**		
% of graduates with a cumulative GPA of 2.75-3.50 scoring above the 50th percentile on the ETS Major Field Achievement Test in Physics			**50%**		
% of graduates with a cumulative GPA above 3.50 scoring above the **50th** percentile on the ETS Major Field Achievement Test in Physics			75%		
% of graduates satisfied with their physics instruction, as indicated on the Southeastern Exit Survey			90%		
% of graduates who feel they were given opportunities and support for attending professional physics meetings while a student at Southeastern as evidenced by the Southeastern Exit Survey			80%		
% of graduates who have career employment or will be enrolled in graduate school as evidence by the Southeastern Physics Post Exit Survey			60%		

Revisions are indicated in bold