

**Comprehensive Program Review
Findings and Plans for the B.S. in Physics
North Georgia College & State University
Spring 2008**

Description:

The Physics B.S. program at North Georgia College and State University is a strong, high quality program. It has produced an average of 6.7 graduates per year over the past three years, placing it second in the University System of Georgia for the number of undergraduate physics degrees. Graduates of the program go into technical and teaching jobs or into high quality graduate programs. The program serves two clienteles, its own undergraduate majors and students from other majors across the University. It produces its physics graduates using only 1.2 to 1.4 faculty loads to teach all of the upper-level courses for the majors. The rest of the efforts of the five Ph.D. physicists and one Ph.D. geographer provide service courses for other science and pre-engineering students and for non-science majors across the campus.

Students:

The program serves many students in fulfilling their Core Curriculum requirements or requirements of their majors. The enrollment data for the past three years show the students served.

Course	Su04	F04	S05	Su05	F05	S06	Su06	F06	S07	Su07	Total
ASTR 1010	30	82	43	34	74	40	33	120	41	40	537
ASTR 1020	26	38	114	0	40	111	26	40	152	29	576
GEOG 1101	10	59	25	11	57	43	17	74	70	12	378
GEOG 1111	13	32	31	0	28	31	0	28	29	0	192
PHYS 1111	39	49	36	41	47	37	36	40	33	26	384
PHYS 1112	34	17	39	44	15	36	31	13	35	34	298
PHYS 2211	0	22	27	0	24	11	0	26	20	0	130
PHYS 2212	0	22	11	0	26	24	0	18	29	0	130

The University has two classifications for the program's students: physics majors and pre-engineering majors. All of the pre-engineering students are combined into a single category, making it impossible to separate those who will transfer and not receive a degree from North Georgia from those in the dual-degree program who will receive North Georgia physics degrees. The current number of physics majors is 22 and the number of pre-engineering majors is 58; roughly one-third to one-half of the latter group will be in the dual-degree program to receive B.S. degrees in physics from North Georgia.

Assessment:

A technique for assessing the fulfillment of the five North Georgia Learning Outcomes has been developed and is discussed in the CPR Narrative. It is just being implemented this year. The program assesses its major program using the locally developed assessment package SAINT. Sample results are included in the CPR report. The process is currently being expanded and improved. A recent formal survey of graduates indicated a high degree of satisfaction with the program. This is confirmed by numerous informal contacts with graduates currently in the workforce and in graduate school.

Curriculum:

The curriculum for the majors is strong and very similar to that of other good physics programs across the state and the country. To expand the major more elective courses will be needed. The

program offers a broad range of courses for other majors and for Core Curriculum requirements. These courses are very popular and usually fill at the beginning of each registration period.

Faculty and Staff:

All the departmental courses are taught by highly qualified, Ph.D.-level faculty members except for a few sections of lower level classes and labs that were taught over the past few years by adjuncts. The number of faculty members is just barely adequate for the program at present. To expand the Core Curriculum offerings and to broaden the major offerings more faculty members are needed. The only staff person is a half-time secretary. Upgrading this position to full-time is a critical need of the department.

Research and Scholarship:

The faculty members are remarkably involved and productive in varying types of scholarship, especially considering their full teaching loads. Half of the faculty members bring in significant outside funding to support their scholarly work. Students are included and participate in the various research projects.

Facilities:

The program currently has adequate classroom and laboratory space in Rogers Hall. The teaching laboratories are well equipped with adequate modern equipment. The Planetarium and Observatory are also significant departmental assets. A recently renovated Student Study Room is extensively used by students. The major problem is the inadequate HVAC system that frequently makes an uncomfortable climate in the whole building.

Plans for the Future:

With a fairly small additional investment, the North Georgia Physics program can double the number of its graduates as called for in the USG Systemwide Initiative to increase the number of graduates in Science, Technology, Engineering and Mathematics and the number of science and mathematics teachers. There are no current deficiencies in the program, and to have twice as many majors the Department would just need one additional faculty member to allow the addition of more elective courses and the more frequent offering of some present courses.