

## Regents' Academic Advisory Committee On Physics & Astronomy

Minutes of Thursday January 31, 2002 meeting

The meeting was convened at 4:50 PM; the following members were present Ian Gatland (Georgia Tech), William Nelson (Georgia State), F. Todd Baker (University of Georgia), Wil Grant (Georgia Southern), Surendra Pandey (Albany State), Roy Wood (Armstrong Atlantic State), Ron Ezell (Augusta State), Shawn Cruzen (for Tsun-Hsiung Kao Columbus State), Michael Pangia (Georgia College & State University), Rolf Schimmrigk (Georgia Southwestern), Ted LaRosa (Kennesaw State), Kailash Chandra (Savannah State), Ntungwa Maasha (Coastal Georgia Community College), David Wycherley (Dalton State), Soumitra Chattopadhyay (Floyd College), Marriam Dittman (Georgia Perimeter College), J. B. Sharma (Gainesville College), Charles Johnson (South Georgia College), Dr. Javier Hasbun (State University of West Georgia), and Chris Wozny (Waycross College)

- 1) The first item on the agenda was the approval of the old minutes. Dr. Ron Ezel of Augusta pointed out a correction to the minutes. Item 2 in the minutes of 2001 regarding "trigger mechanisms" should read: "the BOR Review policy includes a 'trigger mechanism' so that programs with 10-15 students or less, or 10 or fewer graduates or less, by a three-year average may be reviewed earlier than the proposed timetable"; that is, the old number 5 was corrected to the new number 10.
- 2) The next item involved the current read of the algebra and calculus based course descriptions. Dr. Chris Wozny of Waycross made the motion to replace the current catalogue descriptions of these courses with the proposed description (below) and that these new ones be sent to the BOR curriculum council. The motion was seconded by Soumitra Chattopadhyay of Floyd.

The CURRENT descriptions of the courses are as follows:

PHYS 1111k - Introductory Physics I Pre-requisite (or co-requisite): MATH 1113

An introductory course that will include material from mechanics, thermodynamics, and waves. Elementary algebra and trigonometry will be used. Laboratory exercises supplement the lecture material.

PHYS 1112k - Introductory Physics II Pre-requisite: PHYS 1111k or consent of instructor

An introductory course that will include material from electromagnetism, optics, and modern physics. Elementary algebra and trigonometry will be used. Laboratory exercises supplement the lecture material.

PHYS 2211k - Principles of Physics I Pre-requisite (or co-requisite): MATH 2351

An introductory course that will include material from mechanics, thermodynamics, and waves. Elementary calculus will be used. Laboratory exercises supplement the lecture material.

PHYS 2212k - Principles of Physics II Pre-requisite: PHYS 2211k

An introductory course that will include material from electromagnetism, optics, and modern physics. Elementary calculus will be used. Laboratory exercises supplement the lecture material.

The PROPOSED descriptions are:

PHYS 1111k - Introductory Physics I Pre-requisite (or co-requisite): MATH 1113

The introductory physics sequence (PHYS 1111k and PHYS 1112k) is a survey of the primary fields of physics: mechanics, electromagnetism, optics, thermodynamics, and modern physics. Elementary algebra and trigonometry will be used in the course, with laboratory exercises supplementing the lecture material. The first course of the sequence will focus on the field of classical mechanics and its applications.

PHYS 1112k - Introductory Physics II Pre-requisite: PHYS 1111k or consent of instructor

The introductory physics sequence (PHYS 1111k and PHYS 1112k) is a survey of the primary fields of physics: mechanics, electromagnetism, optics, thermodynamics, and modern physics. Elementary algebra and trigonometry will be used in the course, with laboratory exercises supplementing the lecture material. The second course of the sequence will focus on the field of electromagnetism and its applications.

PHYS 2211k - Principles of Physics I Pre-requisite (or co-requisite): MATH 2351

The Principles of Physics sequence (PHYS 2211k and PHYS 2212k) is a survey of the primary fields of physics: mechanics, electromagnetism, optics, thermodynamics, and modern physics. Elementary calculus will be used in the course, with laboratory exercises supplementing the lecture material. The first course of the sequence will focus on the field of classical mechanics and its applications.

PHYS 2212k - Principles of Physics II Pre-requisite: PHYS 2211

The Principles of Physics sequence (PHYS 2211k and PHYS 2212k) is a survey of the primary fields of physics: mechanics, electromagnetism, optics, thermodynamics, and modern physics. Elementary calculus will be used in the course, with laboratory exercises supplementing the lecture material. The second course of the sequence will focus on the field of electromagnetism and its applications.

After considerable discussion, the question was called. The motion passed unanimously.

- 3) The next order of business involved physics lab in Ecore. Drs. Kailash Chandra of Savannah and Dr. Charles Johnson of South Georgia who are the development team members explained their current work. In particular the question was asked as to what kinds of labs can be done. Could these labs be computer simulated? Discussion by the committee members revolved around the idea that experimental data is a crucial part of the scientific process. The suggestion was made that students can

collect data at home. Some pointed out that String-Sticky-Tape experiments can be useful.

Dr. Todd Baker of UGA made the motion: that 1/2 of the Ecore labs not be simulations but data taken with home equipment. Dr. Ian Gatland of Gtech seconded the motion. After considerable discussion, and the question called, the motion passed unanimously.

Dr. Chris Wozny followed up with the motion: that a resolution be sent to the BOR programs committee in order to make possible that kits be sent to those students enrolled in the Ecore to help satisfy the lab component. Surendra Pandey of Albany seconded the motion. After some discussion, the question was called. The motion passed unanimously.

4) The next item of business involved two items of information (a) by Dr. Chris Wozny and (b) by Dr. Ian Gatland as noted below:

(a) This information regards the Technical Colleges' Respiratory Therapy programs, provided by Dr. Chris Wozny. The Respiratory Therapy programs are changing from the current certificate to a 'Registered Respiratory Therapist' program. This change requires students to have a course in physics in their 'core' taught by an instructor who has at least 18 semester hours (or the equivalent quarter credit hours) at the graduate level in physics. At Waycross College, the course 'Survey of Physics PHYS 1010' has been proposed that would satisfy area D1 in the core for non-science majors and would also be appropriate to meet the needs of these students.

There are thirteen Georgia institutions with Respiratory Therapy programs, and it may be very difficult for a technical college to find a part-time or full-time instructor to teach a physics course. Therefore, this may be an opportunity for the Technical Colleges and the University System to work together for the benefit of Georgia citizens, since many of the Physical Science courses offered at various USG institutions meet the physics content requirement of the Registered Respiratory Therapist degree program.

Here is a list of the Respiratory Therapist programs and their directors in the Georgia Technical Colleges which was sent to me by Faye Mathis-McMillan. I thought there were 13 programs, but I notice that there are only 8 institutions on this list.

If one of these institutions is in your service region, then perhaps you may want to make a friendly call to the director to find out what they are doing about the physics requirement. That is only a suggestion. I have reached the limit of my knowledge about the Respiratory Therapy programs: I'm just trying to help.

- • Athens Technical College - Dr. Bruce Ott, Program Director
- • Augusta Technical College - Rita Waller, Program Director; Darrell McDaniel, Director of Clinical Ed.
- • Coosa Valley Technical College - Leann Papp, Program Director; Frank Pharr, Director of Clinical Ed.
- • Heart of Georgia Technical College - Natalie Smith, Program Director; Diana Robbins, Director of Clinical Ed.

- • Griffin Technical College - Shana Keaton, Program Director
- • Gwinnett Technical College - Bob DeLorme, Program Director; Dr. Larry Arnson, Director of Clinical Ed.
- • Okefenokee Technical College - Faye McMillian, Program Director; Kellie Saxon, Director of Clinical Ed.
- • Southwest Technical College - Tammy Miller, Program Director; Jamie Holland, Director of Clinical Ed.

(b) On a different note, Dr. Ian Gatland offered the following information, "At Georgia Tech, Phys 2211 and Phys 2212 include the labs (the lectures and labs are not listed separately). The problem is in providing transfer credit for courses taken elsewhere when the lectures and labs are under separate numbers. The problem is compounded when the lecture number is 2211 (or 2212) but the lab number is 1111 (or 1112). Our Registrar's Office naturally questions such occurrences (and I'm the one they question). If a college uses the 2211/1111 (or 2212/1112) arrangement, then they should alert students that transfer credit may be complicated."

- 5) The final item of business was elections. The results are as follows: Dr. William Nelson of Georgia State was nominated for chair elect by Dr. Chris Wozny and the motion was seconded by Dr. Ian Gatland. The motion passed unanimously. The new executive committee members are as follows:
- Dr. Javier Hasbun (chair) of State University of West Georgia
  - Dr. William Nelson (chair elect) of Georgia State University
  - Dr. Michael Pangia of Georgia College & State University
  - Dr. Chris Wozny (outgoing chair) of Waycross College
  - Dr. Soumitra Chattopadhyay of Floyd College
  - Dr. Wilmer Grant of Georgia Southern University

6) The meeting was adjourned at 6:30 PM

Respectfully submitted,

Javier Hasbun