

PhysTEC – Teacher Advisory Group
Notes and Comments recorded from Teacher Advisory Group
Meeting September 2, 2004

Attendees:

Cumalat, John - CU
Dubson, Mike – CU
Evans, John – Stanley Lake HS
Finklestein, Noah – CU
Fuchs, Mike- Boulder HS
Iona, Steve – CU
Keller, Chris- CU
Miller, Heather- Northglenn HS
Loeblein, Trish – Jefferson County, HS
Miller, Paul – Golden HS
Otero, Valerie - CU
Perkins, Kathy – CU
Pollock, Steve – CU
Reeves, Steve – Stanley Lake HS
Rodding, Peg – Stanley Lake HS
Tanner, Roberta – Thompson Schools, HS

PhysTEC Colorado Website: <http://www.colorado.edu/physics/EducationIssues/phystec>

The group was invited to serve as the **PhysTEC Teacher Advisory Group**.

The group toured the undergraduate lab area viewing homework help areas, a tutorial training session with TAs and LAs, the machine shop, and the lecture-demonstration area.

PhysTEC Colorado Goals

- Increase number of physics majors going into teaching
- Support reforms in undergraduate course work
- Partner with the School of Education
- Partner with local schools
- Research teaching and learning activities.

The PhysTEC grant, supported by the National Science Foundation and the American Physical Society, offers specific opportunities for teacher to be involved on campus through the Fellows Program (financial support for 1 month full-time or an equivalent salary part-time) and the Teacher in Residence Program (full time on campus for a year). The PhysTEC Program must have a Teacher in Residence component to continue eligibility with the Program

Participant Comments and Questions:

- **What is the level of support for this effort from the CU Physics Department?**
Dr. Cumlout attended the majority of the meeting. Noah commented that he believes that the Department strongly values and supports PhysTEC and the Physics Education

Research program at CU. However, changing the culture of department takes time and proceeds incrementally.

- **What level of autonomy do the HS classroom teachers feel?**
The level of autonomy is very large regarding teaching methods. The curriculum in grades 9 and 10 though is rather well specified. “I do not find the Standards to be too confining.” “We use several forms of inquiry teaching (student groups, open ended activities, very few “cookbook labs”).” “Students do not always feel comfortable with open ended or undirected situations. Many students prefer to have the answers.”
- **Would it be helpful to invite high school students to visit the CU campus?**
Many students would be intimidated in most classes, including reformed ones.
- **Teachers are reticent to leave the classroom.**
Preparing for a substitute is often more work than actually teaching the class. “Would it be possible to utilize the LAs (who might have developed some relationship with the students) to assist a substitute?”
- **Could Fellowships be job shared?**
Yes, PhysTEC is open to many different configurations to allow teachers to contribute to the program.
- **John Cumalat mentioned that 2% of the physics PhD’s come from the University of Colorado and that the CU Physics program is the fifth largest in the US.**
- **Issues with Licensure through the School of Education**
The high GPA entrance requirement in the School of Education may limit students from enrollment because typically Physics students have lower GPAs.
Alternative Licensure routes may be more appealing to content majors since it is less time intensive (fewer courses to take), and less costly for prospective science and mathematics teachers.”
“I would have preferred a Science Methods class targeted at prospective Physics teachers rather than general science teachers.
LAs experience with college students will not be adequate preparation for working with the diverse needs of high school students. “It is not very realistic of actual working conditions with the diversity of students in public schools K-12.”
- **Potential PhysTEC Fellow Activities:**
Work on laboratory reform efforts
Establish links with area high schools and middle schools
Participate in educational research program examining student conceptual development, student attitudes
Mentor new/replacement teachers
Work with high school students on the development of laboratory equipment to be constructed at CU and then donated to the high schools
- **Potential Partnership Activities**
LAs help with labs in local HS
What is the advantage to the LA?
There is a 2hr/week obligation for 4810

By Steve Iona