

PhysTEC at Georgia  
State,  
and Middle School  
Science  
in the Atlanta Region



**PhysTEC is an organization of over  
300 institutions**

**<http://www.phystec.org/institutions/>**

**In 2013, Georgia State University  
received a three year PhysTEC  
grant.**

The goals of the PhysTEC program are

- To transform physics departments to engage in preparing physics teachers.
- To demonstrate successful models for increasing the number of highly qualified teachers of physics prepared at colleges and universities.
- To spread best-practice ideas throughout the physics teacher preparation community.

“The linchpin of most successful teacher preparation programs around the country is the Teacher-in-Residence”

The Teacher-In-Residence position for the GSU grant is a part time position.

# Responsibilities of the Teacher In Residence

- Supervising physics major Teaching Candidates.
- Recruiting candidates into the physics Teaching Candidate program.
- Advising and mentoring future physics teachers and Learning Assistants.
- Liaison to area high school physics teachers.

- PLEASE STAND



Please think about something you learned (physics?, physics education?) in the two weeks prior to this meeting.



If you learned it by having  
someone tell you about it,  
please sit.



If you learned it by doing some research, or an investigation, please remain standing; otherwise, please sit down.



There are currently five GSU physics-major Teaching Candidates (TC's) interning at middle schools in the Atlanta area. They will be assigned to intern in high school physics classes for the Spring semester.

As of October 17<sup>th</sup>, all five have been observed teaching a lesson, and their teaching has been assessed.



# Information from these observations

Topics taught by TC' s:

Gas Laws (8<sup>th</sup> grade)

Energy Resources(6<sup>th</sup> grade)

Energy resource distribution and Transport (6<sup>th</sup> grade)

Animal and plant cell structure and function(7<sup>th</sup> grade)

Mountain structure and formation (6<sup>th</sup> grade)



TC's teaching strategies obviously must be consistent with that of their Mentor Teacher

Three TC's employed a modified lecture strategy; one used a Smart Board to present and discuss the topic. This was followed by a lab activity.

The second used a model and a video.

The third used a Power Point , and a Foldable activity.

Not much inquiry was involved.



Two TC's employed a strategy with students doing guided research and presentations. The student research involved some inquiry.



- “...until my cosmic adventures with my father, I had no idea what science was. No one ever tells you. You sit down in a classroom and a teacher starts hurling facts your way and you’re supposed to memorize them and regurgitate them and you have no idea why.



They present the whole thing as if it was a done deal, a list of facts that together constitute a construction manual for nature. “



From the book “Trespassing on Einstein’s Lawn” by Amanda Geffer. The book is a Modern Physics adventure.

A lot of very intelligent students are lost to science because they rarely have the opportunity to really learn about the nature of science, and how much fun it is.



The TC's that I am working with will be teaching in the 2040's, if things work out the way I'd like.

Some of them are here today, and I'd like them to stand.

Thank you.

