

# Master Physics Teacher Certificate

Department of Physics, Southern Methodist University

Science teachers seeking  
physics content training

New teachers seeking  
classroom ideas & resources

Physics teachers seeking  
deeper subject knowledge

**Mechanics**

**Electromagnetism**

**Modern Physics**



<http://www.physics.smu.edu/sdalley/MPTC/MPTChome.html>

2013 -2014

Only one-third of high school physics teachers majored in physics. The short-fall is made up by science educators who are teaching physics out-of-subject, struggling with a lack of content knowledge. Together with curricula that contain little material on modern physics, this exacerbates the deficit of students who choose to go on to study physics in college. Most in-service professional development is brief, specialized, and focused on highly prescriptive training in how to teach components of physics, rather than addressing the underlying problem of teachers lacking comprehensive content knowledge and understanding. SMU Physics department faculty will systematically strengthen the physics content of existing career high school science teachers.



■ **Schedule:** Wed 5:30 – 8:30 p.m. at SMU for two 13-week semesters in Fall and then Spring. Plus 40 hours in summer

■ **Format:** Algebra –based (with optional calculus), lectures, labs, problem-solving, discussions, presentations. Award-winning instructors from SMU faculty

■ **Qualification:** Master Physics Teacher Certificate, endorsed by SMU School of Education for 120 professional development hours

■ **Costs:** Free tuition, labs, and fun. Textbooks (estimated at less than \$200) must be purchased

Fall Semester 2013     **MECHANICS**  
Kinematics, Force, Energy, Momentum

Spring Semester 2014     **ELECTROMAGNETISM**  
Electric charge and field, Potential, Circuits, Magnetism

Summer 2014     **MODERN PHYSICS**  
Relativity, Quantum Mechanics, Particle Physics

- Embedded science pedagogy lectures from SMU School of Education
- Guest lectures on current research topics from SMU Physics faculty.
- Best practice from local physics teachers.

To express interest, please email a short paragraph about your teaching situation to [sdalley@smu.edu](mailto:sdalley@smu.edu) . Enrollment is capped at 20. You must be able to commit time to attend and complete the course.

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