

Master Physics Teacher Certificate *Modern Physics*

Text: **Ideas of Modern Physics** by Simon Dalley

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Objectives: Upon successful completion of this course, students will be able to:

- 1) demonstrate basic facility with the methods and approaches of modern scientific inquiry
- 2) explain how the concepts and findings of Modern Physics shape our world
- 3) analyze and interpret quantitative data in numerical and graphical form

Date	<u>Class</u>	Pre-class reading and quizzes
Read Chapter 1 before the course begins		
7-Jul	Classical Physics Pre-test & tour of SMU research labs (w/ Cooley and Liu)	2.1, 2.2, 2.3
8-Jul	Special Relativity LAB - Speed of Light	2.4, 3.1, 3.3
9-Jul	General Relativity LAB - Weak Equivalence Principle	3.4, 4.1, 4.2
10-Jul	Cosmology, Dark Matter (w/ Jodi Cooley) LAB - Age of Universe (w/ Farley Ferrante)	4.3, 4.4
14-Jul	Quantum Mechanics LAB - Laser Diffraction	5.1, 5.2, 5.3
15-Jul	Atoms LAB - Hydrogen Spectrum	6.1, 6.2, 6.3
16-Jul	Synthesis LAB - Radioactivity (w/ Andy Liu)	6.4, 7.1, 7.2
17-Jul	State of the Art, Higgs Particle (w/ Steve Sekula) LAB - Particle Detectors, Post-test	7.3, 7.4