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:
Explain how the concepts and findings of Modern Physics shape our world
Analyze and interpret quantitative data in the context of Modern Physics
Identify ideas of Modern Physics within the appropriate State standards

Date	Class	Pre-class reading and quizzes
Read Chapter 1 before the course begins, other sections before class		
All classes are Sat 9 am - Noon at SMU		
12-Sep	**Classical Physics** LAB - Measurement Error, Pre-test	**2.1, 2.2**
19-Sep	**Electromagnetism and Light** LAB - Speed of Light	**2.3, 2.4**
26-Sep	**Special Relativity** LAB - Space and Time Dilation	**3.1, 3.2**
3-Oct	**$E = mc^2$** LAB - Paradoxes	**3.3, 3.4**
10-Oct	**General Relativity** LAB - Weak Equivalence Principle	**4.1, 4.2**
17-Oct	**Cosmology** LAB - Age of Universe	**4.3, 4.4**
24-Oct	**Quantum Mechanics** LAB - Laser Diffraction	**5.1, 5.2**
31-Oct	**Matter Waves** LAB - Magnetic Particle Accelerator	**5.3, 5.4**
7-Nov	**Atoms** LAB - Hydrogen Spectrum	**6.1, 6.2**
14-Nov	**Nuclei** LAB - Radioactivity (w/ Prof. Andy Liu)	**6.3, 6.4**
Thanksgiving Break		
5-Dec	**Synthesis** LAB - "Particle Fever" movie	**7.1, 7.2**
12-Dec	**State of the Art** LAB - Particle Detectors, Post-test & Lunch	**7.3, 7.4**