

PHYS 3704 - Modern Physics

Fall 2026 Syllabus, Section 01, CRN 43033,

Credit hours: 4

Instructor

Michael Crescimanno

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Public Instructor Information

Instructor Title: Professor of Physics

Instructor Professional Qualifications: Physics Ph. D. (U. C. Berkeley, 1991), MSc Physics ((U. C. Berkeley, 1988), BS Physics (Princeton, 1985)

Instructor Office Location: Ward Beecher 2015

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Course Description

3704. Modern Physics. Special Theory of Relativity. Quantum phenomena related to electromagnetic radiation and material particles. The Bohr model of the hydrogen atom; the Schrodinger equation; the Heisenberg Uncertainty Principle. Wave mechanics of single particles in one-dimensional potentials. Selected topics in atomic, nuclear and condensed matter physics. Prereq.: PHYS 2611 or ECEN 2633 and prerequisite or concurrent with MATH 2673 or MATH 2673H. 4 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Physics for Scientists and Engineers, 9th Ed.,	R. A. Serway and J. W. Jewett	10 1-113-95408-1

"Concepts in Modern Physics," A. Beiser, Sixth Edition, McGraw Hill Higher Ed.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24		basic relatively 1	
Tue	8/25		basic relativity 2	
Wed	8/26		waves/failures of classical mechanics, intro quantum	
Fri	8/28		intro quantum	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.