

CHPH - CHEMICAL PHYSICS

CHPH618 Special Projects in Chemical Physics (1-3 Credits)

Independent reading and study covering chemical physics subject areas not available in other courses.

Restriction: Permission of instructor.

Repeatable to: 6 credits.

CHPH703 Introduction to Nonequilibrium Statistical Physics (3 Credits)

Analysis and microscopic modeling of systems away from thermal equilibrium. Linear response theory, ergodicity, Brownian motion, Monte Carlo modeling, thermal ratchets, far-from-equilibrium fluctuation relations. Introduction to the theoretical tools of nonequilibrium phenomena and their application to problems in physics, chemistry and biology.

Prerequisite: PHYS603 or CHEM687; or permission of instructor. Cross-listed with: CHEM703, PHYS703.

Credit Only Granted for: CHEM703, CHPH703, or PHYS703.

CHPH707 Advanced Laboratory - Photon Correlation Spectroscopy of Soft Matter (3-4 Credits)

The course is based at the Photon Correlation Spectroscopy facility, also known as Dynamic Light Scattering (DLS). The DLS has three state-of-the-art instruments for the characterization of nano-and meso-scale heterogeneities in soft-matter materials, such as nanoparticles, polymers, protein molecules in solution, gels, and microemulsions.

CHPH709 Seminar in Chemical Physics (1 Credit)

Current research and developments in chemical physics.

CHPH718 Special Topics in Chemical Physics (1-3 Credits)

A discussion of current research problems in chemical physics.

Repeatable to: 99 credits if content differs.

CHPH799 Master's Thesis Research (1-6 Credits)**CHPH898 Pre-Candidacy Research (1-8 Credits)****CHPH899 Doctoral Dissertation Research (1-8 Credits)**