FALL 2017 – Beyond Intro Physics…

PHY 305 Early Quantum Theory and Its Applications

Introduction to quantum aspects of light and matter: photons, matter waves, wave-particle duality, uncertainty and quantum probability, the Schroedinger equation, atomic and molecular structure, classical and quantum statistics, and solid state physics.

Prerequisites: MAT 192 and PHY 162

3 Credit hours, MWF 1-1:50, SEB 140, Instructor Jose Balduz

PHY 320 Medical Devices

Interdisciplinary science course for students interested in medicine or other health care professions. Technological innovations in modern medicine have empowered us to diagnose and treat diseases in ways that we could not imagine before. We will study the role of scientific development in the modern medical field and develop an appreciation for the interdisciplinary nature of bio-medical studies. Operation principles behind various medical instruments for diagnosis and treatment will be discussed, along with case studies and applications. Presentations and discussion will also be provided by guest speakers from medical professions and the Mercer School of Medicine.

Pre-requisites: PHY 142 or PHY 162

3 Credit hours, MWF 9-9:50, SEB 140, Instructor John Lee

PHY 330 Thermal Physics

Introduction to statistical mechanics covering classical and quantum statistics, and connections with thermodynamics. Quantum statistics will include investigations of thermal properties of solids and low temperature phenomena.

Pre-requisites: MAT 192 and PHY 162

3 Credit hours, MWF 2-2:50, SEB 140, Instructor Will Sams