Physical Sciences Track – 27 Credits

COURSE	CREDITS	COURSE DESCRIPTION/PRE-REQUISITES	SEMESTER OFFERED
CHEM 105	4	**[PSCI] Principles of Chemistry I** Course Prerequisite: Credit for or concurrent enrollment in one of the following courses: MATH 106, 108, 140, 171, 172, 182, 202, or ENGR 107, or a minimum ALEKS math placement score of 80%. Atomic and molecular structure, states of matter, quantitative relationships, thermodynamics, quantum mechanics, periodicity, bonding. Recommended preparation: One year rigorous high school chemistry or CHEM 103.	Fall, Spring, Summer
CHEM 106	4	**Principles of Chemistry II** Course Prerequisite: CHEM 105 with a grade of C or better; one of MATH 106, 107, or 108 with a grade of C or better, or MATH 108 or concurrent enrollment, or a minimum ALEKS math placement score of 80%. Intermolecular forces, solutions, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, radiochemistry. Credit not granted for both CHEM 106 and 116.	Fall, Spring, Summer
MATH 273	2	**Calculus III** Course Prerequisite: MATH 172 with a C or better, or MATH 182 with a C or better. Calculus of functions of several variables. Credit not granted for both MATH 273 and 283.	Fall, Spring, Summer
PHYS 201	4	**[PSCI] Physics for Scientists and Engineers I** Course Prerequisite: MATH 171 with a C or better, MATH 172 or concurrent enrollment, MATH 182 or concurrent enrollment, MATH 273 or concurrent enrollment, or MATH 315 or concurrent enrollment. Calculus-based physics; topics in motion and dynamics of particles and rigid bodies, vibrations, wave phenomena, and the laws of thermodynamics. Credit not granted for more than one of PHYSICS 101, 201, or 205.	Fall, Spring, and Summer
PHYS 202	4	**[PSCI] Physics for Scientists and Engineers II** Course Prerequisite: PHYSICS 201 with a C or better or PHYSICS 205 with a C or better; MATH 172 with a C or better or MATH 182 with a C or better. Calculus-based physics, topics in electricity, magnetism, electromagnetics, D/C and A/C circuits, optics, reflection, refraction, interference, diffraction, polarization. Credit not granted for more than one of PHYSICS 102, 202, or 206.	Fall, Spring, and Summer
CHEM 331	3	**Physical Chemistry** 3 Course Prerequisite: MATH 273 or 283 with a C or better; PHYSICS 202 with a C or better. Concepts of physical chemistry; basic thermodynamics; free energy and entropy; phase equilibria; properties of solutions of electrolytes and non-electrolytes.	Fall

CHEM 332	3	**Physical Chemistry** Course Prerequisite: MATH 273 with a C or better; MATH 220 with a C or better; PHYSICS 202 with a C or better. Elementary quantum theory; molecular structure and spectra; bonding theory; reaction rates; photochemistry and radiation chemistry; energy states and statistical thermodynamics.	Spring
CHEM 333	1	**Physical Chemistry Laboratory for Chemists** Course Prerequisite: CHEM 331 with a C or better or concurrent enrollment. Experiments selected to meet the individual needs of students in biology, chemical engineering, chemistry, or materials science.	Fall. Spring
CHEM 334	2	**[M] Physical Chemistry Laboratory** Course Prerequisite: CHEM 332 with a C or better or concurrent enrollment; CHEM 333 with a C or better. Continuation of CHEM 333. Experiments in molecular structure, atomic molecular spectroscopy, chemical kinetics including computational methods.	Fall