

PSNS-PACS NATURAL SCIENCES

PSNS 1513 Introduction to Interdisciplinary Physical Sciences 3 Credit Hours

Emphasis on physics and chemistry, including topics such as the laws of motion, elements of thermodynamics, wave forms and properties, structure of atoms, and the formation of chemical bonds. (F, Sp, Su)

PSNS 2413 Celestial Insights 3 Credit Hours

This course explores questions about the natural world and how astronomy is/has been used in culture. Students learn about Moon phases, seasons, blue skies, eclipses, and tides and their relation to astronomy. The course investigates how cultures kept time by the Sun and Moon, astronomical derivations for the names of days, and reasons behind changing times for moveable feasts. (F, Sp, Su)

PSNS 2514 The Human Environment 4 Credit Hours

Explores the interaction between the environment and multiple disciplines, such as society, the economy, and politics. Students will be immersed in an interactive experience in which they learn about the basic chemical properties and processes of the physical environment and how other parts of their world affect it. (F, Sp, Su) [II-NS].

PSNS 2533 Science as a Process 3 Credit Hours

Analysis and criticism of the scientific method, design of experiments and collection and interpretation of data in scientific investigations. (F, Sp, Su) [II-NS].

PSNS 2553 Interdisciplinary Life Sciences 3 Credit Hours

A study of the integration of biological systems at the cellular level. It includes discussions of metabolism, chromosome structure and function and the structure and function of the DNA molecule. (F, Sp, Su)

PSNS 2700 Special Topics in Liberal Studies 1-9 Credit Hours

1 to 9 hours. Prerequisite: May be repeated with change of content; maximum credit nine credit hours. Specific course content will be defined each time the course is offered. A problem-oriented approach to interdisciplinary studies. Reading and research, arranged and directed in consultation with the instructor, in specified areas of liberal studies. (F, Sp, Su)

PSNS 3113 Lifespan Development 3 Credit Hours

Prerequisite: junior standing or permission from adviser. Survey of human development from birth to death, drawing from multiple disciplines including biology, psychology, sociology, and medicine. The emphasis is on empirically-derived information about human development that may be of practical use to individuals working directly with others in a service capacity. Particular attention is devoted to issues of physical, cognitive, social, and emotional development at all stages of (F, Sp, Su)

PSNS 3413 History of Astronomy in Culture 3 Credit Hours

Prerequisite: Junior Standing or departmental permission. An exploration of the historical methods and uses of astronomy in cultures throughout the world, with examples from six continents and islands in the Pacific. (F, Sp)

PSNS 3423 Biology of Human Aging 3 Credit Hours

Prerequisite: junior standing or permission from adviser. Introduction of both natural science and social science methods used to study aging in humans and other creatures. Topics will include a synopsis of the demographics of aging in human populations, terms and theories of aging, mechanisms of aging at the cellular level, and a review of how the body ages, system-by-system. (F, Sp, Su)

PSNS 3513 The Dynamic Universe 3 Credit Hours

Prerequisite: junior standing or permission from adviser. Select topics including the Big Bang, formation of matter and its association into stars and planets, plate tectonics and the physics and chemistry of the atmosphere. (F, Sp, Su)

PSNS 3533 Ecology and Evolution 3 Credit Hours

Prerequisite: junior standing or permission from adviser. A study of the interactions of genetic change in organisms with environmental stress, and contributions of these interactions to evolution. (F, Sp, Su)

PSNS 3573 Chemistry for Changing Times 3 Credit Hours

Prerequisite: junior standing or permission from adviser. An overview of chemistry, with fundamentals and organic processes explained. The course investigates chemicals found in everyday life and on the earth with the aim of understanding how chemical processes are at work, both in the environment around us and in energy, air, water, biochemistry, drugs, poisons and chemicals. It is ideal for the generalist and the interdisciplinary student, although (F, Sp, Su)

PSNS 4563 Weather and Climate 3 Credit Hours

Prerequisite: junior standing or permission from adviser. An introduction to energy balance, temperature, atmospheric moisture, cloud formation, static stability, precipitation mechanisms, winds, mid-latitude and severe storms, weather forecasting and climate. The course is designed for students who are not scientists. (F, Sp, Su)

PSNS 4593 The Role of Genetic Engineering: Past, Present and Future 3 Credit Hours

Prerequisite: junior standing or permission from adviser. Examines the role of gene manipulation in the past, present, and future. It will begin with descriptions of genes, evolution and fitness, and will conclude by exploring the scientific and political future of genetic engineering. (F, Sp, Su)