

## Physical Science (PHS)

### PHS 102 Astronomy

IAI – P1 906

3 Hours

Prerequisites: None

3 hours weekly (3-0)

A general education course in astronomy that examines astronomical phenomena and concepts, including the solar system, planetary motions, atoms and radiation, stars and galaxies, and the origin and evolution of the universe. Textbook principles as well as observation of the night sky are brought together in this course.

### PHS 103 Earth Science

IAI – P1 905L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

This is a lecture and laboratory course that serves as an introduction to geology, including the many cycles that drive our planet, Earth. Major topics include scientific research methods, formation of Earth, Earth in relation to the universe, geologic time, plate tectonics, the rock cycle, the water cycle, natural hazards, human impact on the Earth, life through time, and climate changes through time. Laboratory includes traditional on-campus investigations and field lab trips to explore the exemplary natural environments found in southern Illinois.

### PHS 105 How Things Work: Physics of Everyday Life

IAI – P1 900

3 Hours

Prerequisites: None

3 hours weekly (3-0)

This course introduces the principles of physics and science for non-science major or science major students. Students will examine selected familiar real-life examples in a case-study format and explore their connection to underlying physical principles, which are revisited when they appear in another example, thus building the universality of the concepts. The course will consider examples covering topics from mechanics, fluids, heat, electricity and magnetism, optics, waves, and modern physics. The course will be helpful for students to develop logical thinking to solve problems. This course is also helpful for students wishing to gain a conceptual understanding before taking a more advanced physics course.

### PHS 107 Weather & Climate

IAI – P1 905

3 Hours

Prerequisites: None

3 hours weekly (3-0)

A first course in the atmospheric sciences, for both science and non-science majors, which integrates an exposure to current atmospheric events with an understanding of current scientific thinking of atmospheric processes. The course covers topics ranging from basic atmospheric composition, structure and motions to an introduction to climatology. The course will also emphasize scientific literacy and qualitative reasoning applied to atmospheric behavior.

### **SCI 100 STEM Fundamentals**

1 Hour

Prerequisites: None

1 hour weekly (1-0)

This course is designed to help STEM-oriented (Science, Technology, Engineering, and Mathematics oriented) students in their transition to college. Students will learn about the resources and services available at John A. Logan College and other higher education institutions, as well as the expectations and challenges of being a STEM-oriented college student. Students will also gain important skills that are required to achieve success in math- and science-based college coursework.

### **SCI 101 Integrated Life & Physical Science I**

IAI – LP900L/901

4 Hours

Prerequisites: None

5 hours weekly (3-2)

Using a combination of lecture and lab, this course integrates various introductory topics as they relate to the life and physical sciences. It is oriented to provide general knowledge on a variety of topics such as general biology and chemistry, cells, energy flow, genetics, evolution, earth's resources, various biotic and abiotic components of ecosystems, as well as resource availability, consumption, pollution, and sustainability, along with how it relates to climate change. The utilization of the scientific process: inquiry, as well as interpretation of data and critical thinking, will be integrated throughout the semester during both lecture and lab.

### **SCI 111 Integrated Life & Physical Science II**

IAI – LP900L/901

3 Hours

Prerequisites: Concurrent enrollment or completion of SCI 101 or consent of instructor.

3 hours weekly (3-0)

This is an interdisciplinary physical and life science course that focuses on the study of humankind's relationships with other organisms and the impact on nonliving components of the environment. There are both biological and physical science topics integrated throughout the course, as a continuation from PHS 101 content. Critical thinking and the process of science is intertwined throughout the course too.