

I. COURSE INFORMATION

- A. Physical Science 130 Descriptive Astronomy
- B. 5 credit hours
- C. Palen, Stacey, Laura Kay, and George Blumenthal. *Understanding Our Universe*. 3rd ed. New York: W.W. Norton Co, 2019
Palen, Stacey and Ana M. Larson. *Learning Astronomy by Doing Astronomy*. 2nd ed. New York: W.W. Norton Co, 2020
- D. Prerequisite: Enrollment in or completion of MAT 105 College Algebra with a C grade or above and eligible for COL 101 English Composition I or completion of COL 101
- E. KRSN: PHY 1020 Descriptive Astronomy

The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

II. COURSE DESCRIPTION

Descriptive astronomy is an integrated lecture and laboratory course designed for students seeking to learn about the principles of astronomy. This course introduces the student to the science of astronomy. It will touch on physical laws and properties of the universe, but no extensive math background is required beyond a basic understanding of algebra and trigonometry. The student will learn to observe the universe around us and understand what those observations imply.

III. LEARNING OUTCOMES

- A. Explain the scientific method
- B. Interpret astronomical observations, demonstrate critical thinking and basic problem solving
- C. Explain astronomical phenomenon in terms of appropriate scientific models
- D. Explain and critique science as presented in the media
- E. Identify, locate and predict characteristics of celestial objects
- F. Effectively utilize tools of observational astronomy
- G. Generate and communicate conclusions based on data and analysis of observations

IV. MAJOR CONTENT AREAS

- A. The night sky
- B. Gravity and basic science
- C. Light and telescopes
- D. Origin of light
- E. The solar system
- F. Galaxies
- G. Stars
- H. Cosmology
- I. Interstellar bodies
- J. Life in the universe
- K. Astronomical instruments
- L. Data acquisition
- M. Data analysis

V. ASSIGNMENTS (may include but are not limited to)

- A. Reading assignments
- B. Writing assignments
- C. Discussions
- D. Projects

VI. EVALUATION METHODS (may include but are not limited to)

- A. Attendance and participation
- B. Assignments
- C. Quizzes and exams
- D. Lab reports