

**ASTR 106 Introduction to Astronomy****Credit Hours:** 4**Scheduled hours per week**

Lecture: 3

Lab: 2

Other: N/A

**Catalog Course Description:** Introduction to the study of the Universe, including the latest theories on the origin of the Universe, the solar system and the Earth. Covered will be the origin of galaxies, stars, planets, asteroids, meteoroids, comets, etc., stressing modern techniques of gathering information about the Universe. The lab portion of the course will include observations of the sky, use of telescopes, and use of the celestial sphere and star charts. May also include planetarium visits and other astronomy related field trips

**Pre-requisites:** N/A**Co-requisites:** 106L Introduction to Astronomy Laboratory**Course Learning Outcomes:**

- Ability to demonstrate critical thinking by analyzing data to infer logical conclusion.
- Demonstrate and practice the scientific method of investigation of a problem or idea.
- Ability to collect accurate scientific data by practicing accurate data collecting techniques.
- Practice experimentation and/or observation of nature in order to evaluate scientific questions or scientific problems.
- Ability to analyze data by using graphing and other techniques to infer general trends in data and make inductive inferences.
- Ability to make hypothetical-deductive predictions relative to scientific concepts and understand how to test those predictions.
- Capability to correctly practice the steps involved in solving problems with the scientific formulas.
- Ability to take measurements and do calculations using the basic metric system of measurement.
- Learn and practice methodical study and work habit.
- To study the origin of, composition of, and active processes of the Universe.
- To appreciate the place of the Earth in the Universe.
- To study and practice the techniques used to investigate the Universe.
- To experience a sense of discovery about the workings of the Universe.
- To learn and appreciate the difference between the real science of astronomy and the false science of astronomy (and other pseudoscience).

**Topics to be studied:**

- The origin, composition, motion, and evolution of celestial bodies in the Universe and the energy relationships that explain their existence and evolution
- Origin and formation of the earth, solar system, and Universe.
- Patterns in the sky, celestial globes, and star charts
- Life cycle of a star
- Life in the universe
- The relationship of earth and the other planets in the solar system and exoplanets
- Exoplanets and habitable zones
- Early astronomers

- Basic physics
- Planets and satellites of the solar system

**Relationship of Course to Program or Discipline Learning Outcomes:**

<b>Relationship of Course to Science Learning Outcomes:</b>	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X
Students exhibit the basic safety-related rules and regulations of working in the lab.	X
Students be able to recount the basic safety tenants associated with a specific scientific discipline.	X
Students will become proficient at Science Writing.	X
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	X
5/3/2016	

<b>Relationship of Course to General Education Learning Outcomes:</b>	
<b>Composition and Rhetoric</b> Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	X
<b>Science &amp; Technology</b> Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
<b>Mathematics &amp; Quantitative Skills</b> Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
<b>Society, Diversity, &amp; Connections</b> Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	X
<b>Human Inquiry &amp; the Past</b> Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	X
<b>The Arts &amp; Creativity</b> Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	X
5/3/2016	

**Special requirements of the course:**

N/A

**Additional information:**

N/A

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**Date:** 10/20/2017