General Education Natural Science Learning Outcomes

1. Students apply physical/natural principles to analyze and solve problems. *(This outcome will be assessed by writing a report of one of the labs. It will count as 5% of your final lab grade.)*
2. Students explain how science impacts society. *(This outcome will be assessed in the lab using an assignment involving writing a letter to a public official about an astronomy-related current event. It will count as 5% of your lab grade.)*

Course-specific Learning Outcomes

**ASTR 130 (Lecture)**

- Students apply physical/natural principles to analyze and solve problems. This outcome will be assessed during the lab portion of the course and will involve writing a lab report.
- Students explain how science impacts society. This outcome will be assessed during the lecture portion of the course and will involve writing a positional letter to a public official about a major astronomy program.
- Students distinguish the nature and significance of the following: instruments used in astronomy, stars (binary, variable), star clusters, interstellar matter, galaxies and cosmology.
- Students demonstrate how the measurement of light is used to interpret physical characteristics of the universe.
- Students recognize the origins of astronomical objects.
- Students apply physical laws to reveal the nature of astrophysical phenomena.
ASTR 130L (Lab)

• Students distinguish the nature and significance of the following: instruments used in astronomy, stars (binary, variable), star clusters, interstellar matter, galaxies and cosmology.
• Students demonstrate how the measurement of light is used to interpret physical characteristics of the universe.
• Students recognize the origins of astronomical objects.
• Students apply physical laws to reveal the nature of astrophysical phenomena.
• Enhance teamwork and communication skills.
• Learn lab safety.