Astronomy Program Learning Outcomes:

Graduates from the Astronomy undergraduate degree program will be able to:

- **Outcome 1:** Predict and solve for the emission, propagation, and absorption of light in astronomical systems.

- **Outcome 2:** Explain how gravity describes the motion of objects, evaluating gravitational problems relating to star-formation, planetary/stellar/galaxy kinematics, and galaxy formation.

- **Outcome 3:** Distinguish the evolutionary stages of astronomical objects (planets, stars, galaxies, cosmos), and identify key observations which provide clues to the distant past and future.

- **Outcome 4:** Contrast the spatial and mass scales of objects, from atoms through galaxy clusters, and explain what physical processes govern behavior at each scale.

- **Outcome 5:** Construct an astrophysical experiment in both an observational and theoretical framework by planning and implementing key aspects of the observations or theoretical modeling, and analyzing the resulting data.

- **Outcome 6:** Set up / diagram the mathematical framework for key astrophysical problems and describe an approach to solve them while displaying proficiency in unit conversion and dimensional analysis.

- **Outcome 7:** Utilize computer programming to solve complex astrophysical problems.

- **Outcome 8:** Locate and dissect credible scientific information, including: plots, generally information, and journal articles.

- **Outcome 9:** Exhibit teamwork by working well in teams as both a participant and a leader, and exemplify a knowledge of proper ethics in their interactions with classmates, and evaluation of real-world scenarios.

- **Outcome 10:** Communicate effectively orally and in writing based on scientific reasoning and critical thinking.

- **Outcome 11:** Show proper time management skills by balancing requirements for classwork and research.