ASTRONOMY (ASTR)

Courses

ASTR 150 Astronomy: Motions of the Cosmos Credits: 3
An introductory exploration of modern topics in astronomy with an emphasis on developing conceptual models for the fundamental laws of gravity and motion crucial to the formation of stars and planetary systems, the growth of black holes and galaxies, and the evolution of cosmic structure.

ASTR 150 - MOTR ASTR 100: Astronomy

ASTR 153L Introductory Astronomy Laboratory Credits: 2
An introductory exploration of astronomical phenomena and concepts through quantitative laboratory activities requiring data collection, analysis and interpretation. This course is open to students from all majors.

ASTR 153L - MOTR ASTR 100L: Astronomy with Lab

ASTR 155 Astronomy: Starlight and Star Stuff Credits: 3
An introductory exploration of modern topics in astronomy with an emphasis on developing conceptual models for the interactions between light and matter crucial to the life and death of stars, the analysis of starlight and interstellar chemistry, and the interpretation of cosmic history.

ASTR 155 - MOTR ASTR 100: Astronomy

ASTR 304 Scientific Research Preparation Credits: 3
Through completion of immersive and structured hands-on learning activities, students gain generalized practical and technical skills that are in demand for STEM (Science-Technology-Engineering-Math) internships and that are needed for dynamic careers in scientific, engineering, and Tech research and development sectors. Students learn transferable data analysis, critical thinking, problem-solving, coding, technical communication, and technological literacy skills through the realistic application of concepts, tools, and methods commonly employed in basic research. No previous experience with computer coding nor research methods is required.
Prerequisites: Math 120 and Physics 210 or 240, or consent of instructor

ASTR 353 Practical Astronomy Credits: 3
A practical overview of the basic methods of observational astronomy research, including the principles of telescopes, detectors and measurement theory.
Prerequisites: PHYSICS 220 or PHYSICS 250; and MATH 250 or MATH 268.

ASTR 355 Stellar Astrophysics Credits: 3
A mathematical and conceptual overview of the observed properties of stars and the fundamental astrophysics of radiative transfer, hydrostatic equilibrium, atomic processes and thermonuclear energy production that govern their structure, atmospheres and remnants.
Prerequisites: PHYSICS 240 and MATH 210.

ASTR 356 Galaxies Credits: 3
A mathematical and conceptual overview of the observed properties and astrophysics of galaxies highlighting star formation and evolution, the interstellar medium, the Milky Way, galaxy populations and demographics, active galactic nuclei, and galaxy formation and evolution.
Prerequisites: PHYSICS 240 and MATH 210.

ASTR 465 Cosmology Credits: 3
This course provides a foundation in both physical and observational cosmology. Students will acquire both a mathematical and conceptual understanding of the formation and dynamics of the Universe.
Prerequisites: PHYSICS 220 or PHYSICS 250; and MATH 250 or MATH 268.