ASTROPHYSICS

Faculty: Rodruck, Director of the Keeble Observatory.
(Department of Physics, Engineering, and Astrophysics)

The Astrophysics Minor is designed to equip students with the foundational knowledge and practical skills needed to pursue careers in astrophysics or related fields. The program emphasizes both theoretical concepts and observational techniques, offering students direct, hands-on experience in the discipline. Through a combination of specialized coursework and general education classes, students gain a quantitative understanding of the Universe while also exploring the social and historical context of astrophysical discovery.

- Astrophysics Minor (https://catalog.rmc.edu/programs/astrophysics/astrophysics-minor/)

ASTR 101 - Introductory Astronomy (4 Hours)
A one-semester survey course in contemporary astronomy in which students examine the present scientific understanding of the universe and how that understanding has been achieved. Topics covered include historical astronomy, the solar system, stars, and interstellar medium, galaxies, and cosmology. The laboratory component of the course allows students hands-on experience in some of the measurement processes used in modern astronomy, and includes the use of the Keeble Observatory.
Curriculum: NS,SP

ASTR 231 - Astrophysics I (3 Hours)
A two-semester sequence which provides an overview of contemporary astrophysics. Emphasis is placed on understanding the methods of investigation used in modern astronomy, and the interaction between theory and observation. Topics include planets and the solar system, the interstellar medium, stars and star formation, stellar evolution, galaxies, and cosmology. Offered alternate years.
Prerequisite(s): PHYS 152 and MATH 132

ASTR 232 - Astrophysics II (3 Hours)
A two-semester sequence which provides an overview of contemporary astrophysics. Emphasis is placed on understanding the methods of investigation used in modern astronomy, and the interaction between theory and observation. Topics include planets and the solar system, the interstellar medium, stars and star formation, stellar evolution, galaxies, and cosmology. Offered alternate years.
Prerequisite(s): PHYS 152 and MATH 132

ASTR 235 - Historical and Philosophical Foundations of Astronomy (3 Hours)
An investigation of the historical background and philosophical/theological context of modern astronomy. Emphasis is placed on the evolution of our ideas of the cosmos, and of the development and cultural significance of new technologies applied to astronomical research. Beginning with early creation myths - including the Biblical accounts in Genesis, the Babylonian Enuma Elish, classical Greek cosmologies, and several non-western traditions - we examine the roles and interaction of astronomical concepts with the culture in which they are immersed. The rise of "modern science" through the Copernican and Newtonian revolutions, and the 20th century developments of relativity and quantum mechanics are studied to see how they changed both the technology available, and the underlying world view of astronomers and society. Offered alternate years.
Curriculum: HC,NS

ASTR 321 - Observational Astronomy Laboratory (1 Hour)
A one-semester laboratory course which explores the techniques of optical astronomy, including the use of astronomical coordinate systems, photography, photometry, and spectroscopy. Extensive use is made of the facilities of the Keeble Observatory. Students are expected to demonstrate through written and oral reports competency with the apparatus and understanding of the phenomena observed. Offered alternate years.
Prerequisite(s): PHYS 152 or permission of instructor