

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

**DEPT. PHYS**

**COURSE NUMBER:1150**

**NUMBER OF CREDITS: 3**

**Lecture: 2 Lab: 1 OJT 0**

Course Title:
Survey of Astronomy

Catalog Description:
Survey of Astronomy covers a general overview of the science of astronomy. Topics include the history of astronomy, the nature of science, celestial motion, phases of the moon, gravity, Kepler's Laws, light and spectroscopy, the Solar System, stars, galaxies, and cosmology. There will be lab activities to accompany many of the topics.

Prerequisites or Necessary Entry Skills/Knowledge:
Equivalent of MATH 1107, placement by multiple measures, or instructor permission

**FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)**

☒ Goal 3: Natural Sciences: By meeting the following competencies:

- Demonstrate understanding of scientific theories.
- Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
- Communicate their experimental findings, analyses, and interpretations both orally and in writing.
- Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

Topics to be Covered
History of astronomy
Motions on the celestial sphere
Seasons
Phases of the Moon
Kepler's Laws of planetary motion
Newton's Laws and gravity
Spectroscopy and light
Telescopes
The terrestrial worlds
The Jovian planets and their satellites

Comets and asteroids
The Sun
Stellar Properties
Stellar remnants
Star clusters and Galaxies
The structure and history of the Universe

<b>Student Learning Outcomes</b>
Illustrate the current scientific understanding of the physical universe.
Combine multiple techniques of the scientific process to various aspects of astronomy.
Demonstrate models of physical behavior as it relates to our knowledge of the universe.
Examine astronomical topics and their impacts on past and current society.

<b>Is this course part of a transfer pathway:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<small>*If yes, please list the competencies below</small>

Revised Date: 1/18/2022