

# Minnesota State University Moorhead

## AST 102: Solar System Astronomy

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 1

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: AST 102L

MnTC Goals: Goal 03 - Natural Science

An introduction to the history of astronomy, the Sun, the origin of the solar system, and the study of the planets. Lab included. MnTC Goal 3.

**B. COURSE EFFECTIVE DATES:** 02/04/1998 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Nature of science and history of astronomy
2. Formation of Sun and solar system
3. Terrestrial planets: atmospheres and geologies
4. Jovian planets and moons
5. Minor bodies: dwarf planets, asteroids and comets
6. Exoplanets

### D. LEARNING OUTCOMES (General)

1. Distinguish between scientific and non-scientific ideas.
2. Apply basic physical laws to motions of planets.
3. Describe and explain patterns in the motion, composition, and location of objects in the solar system.
4. Compare and contrast our solar system with other solar systems.
5. Compare and contrast the terrestrial planets.
6. Compare and contrast the Jovian moons.
7. Identify internal heat as the driver of geological activity and explain the source of heat for the geologically active worlds in the solar system.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. 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.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted