

# Minnesota State University Moorhead

## AST 365: Cosmology

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

- MATH 323 - Multi-Variable and Vector Calculus

Corequisites: None

MnTC Goals: None

Theoretical principles and observational evidence regarding the large-scale structure and evolution of the universe.

**B. COURSE EFFECTIVE DATES:** 04/05/2005 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. ζ Observational evidence for an expanding universe
2. ζ Introduction to general relativity, with an emphasis on physical description of curvature and the relationship between curvature and density
3. ζ Friedmann models of an expanding universe
4. ζ Distance and time measures in cosmology
5. ζ Evidence for dark matter & dark energy
6. ζ Evolution of the universe
7. ζ Observational measures of the expansion history of the universe

### D. LEARNING OUTCOMES (General)

1. ζ Apply concepts in each of the major content areas
2. ζ Communicate scientific ideas both orally and in writing

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted