

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE – VIRGINIA/EVELETH

Course Outline

Course Title: Introductory Astronomy
Semester Course Prefix and Number: PHYS 1567
Old Quarter Course Prefix and Number:
Submitted By: Jason Slattery
Approval Date:
Revision Date: April 2011

Number of Credits: 3
Semester(s) Offered:
Negotiated Class Size:
Number of Lecture Credits: 3
Number of Lab Credits:
Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable, General Education
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of general education (MNTC) e.g. computer science, health, physical education
- 5 – Course that is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

This course is an introductory study of the universe. It covers development of astronomy as a science, the scale structure and evolution of the solar system, stars, stellar evolution, galaxies, and cosmology.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): None
Reading Prerequisite: College level reading
Composition Prerequisite: None
Mathematics Prerequisite: None

Career Programs and Transfer Majors Accessing this Course:

Astrophysics, astronomy

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable: Notes: No more than two goals may be met by any one course. (Curriculum Committee review and the Chief Academic Officer's approval are required).

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| 0. <input type="checkbox"/> None | 6. <input type="checkbox"/> The Humanities and Fine Arts |
| 1. <input type="checkbox"/> Communications | 7. <input type="checkbox"/> Human Diversity |
| 2. <input type="checkbox"/> Critical Thinking | 8. <input type="checkbox"/> Global Perspectives |
| 3. <input checked="" type="checkbox"/> Natural Sciences | 9. <input type="checkbox"/> Ethical and Civic Responsibility |
| 4. <input type="checkbox"/> Mathematical/Logical Reasoning | 10. <input type="checkbox"/> People and the Environment |
| 5. <input type="checkbox"/> History and the Social and Behavioral Sciences | |

Learning outcomes, including any relevant competencies listed in the Minnesota Transfer Curriculum:

The student will :

- Demonstrate an understanding of scientific theories that pertain to astronomy.
- Evaluate societal issues from a natural science prospective, ask questions about the evidence presented and make informed judgments about astronomy-related topics and policies
- Formulate and test hypotheses by performing online labs and recording data.
- Use the principles of physics to describe and interpret data received from space.
- Apply the scientific method in developing theories of the origin and fate of the universe.
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Student assessment methods:

Homework assignments

Online lab quizzes

Exams

Use of instructional technology (includes software, interactive video and other instructional technologies):

PowerPoint lecture delivery; web-based quizzes; online labs (applets); use of planetarium software.

Outline of the major course content:

1. Introduction to Astronomy
2. Gravitation and Motion of the Planets
3. The nature of Light and Matter
4. Optics and Telescopes
5. The Solar System
6. The Stars
7. Galaxies and Cosmology

Additional special information (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

University of Minnesota-Duluth, University of North Dakota, Minnesota State University-Mankato, Michigan Technological University.

When combined with PHYS 1568 Astronomy Lab: University of Minnesota, St. Thomas, Winona State University, Southwest State University.

Approvals:

Body	Representative Signatures	Date
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office

Copies: Curriculum Committee Chair, Learning Center, Library, Originating Faculty Member, Records, Student Services, Scheduler, Transfer Specialist