Fond du Lac Tribal and Community College  
COURSE OUTLINE FORM

Updated 9/23/14

Please return this form to the college vice president of academic affairs and the chairperson of the Academic Affairs and Standards Council (AASC)

1. Prepared by: __________________________________________________

2. Date submitted: ____________________________________________

3. Date approved: __________________ Date revised: 10/14/2014

4. Department/discipline: Physics

5. Department(s) endorsement(s): ____________________________________
   (Signatures of the person(s) providing the endorsement are required.)

6. Course Title: Introductory Astronomy
   Abbreviated course title (25 characters or less):

7. Course Designator: PHYS

8. Course Level: 1020

9. Number of Credits: Lecture: 4 _ Lab: 0

10. Control Number (on site): 70
    Control Number (online): 0

11. Catalog/Course description:
    An introductory study of the nature and dynamics of the Solar System and universe beyond. Emphasis will be on astronomical bodies that can be directly observed such as the Sun, Moon, stars, meteors, and aurora borealis. Students will perform lab-like activities involving observation and measurement of celestial objects and cycles using instruments, sky charts, and hand measurement systems. (Meets MnTC goal area 3).

12. Course prerequisite(s) or co-requisite(s):
    Prerequisite(s): None
    Co-requisite: None

13. Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).
    1. Text and observing aids determined on a yearly basis depending on
availability and content.
2. Three-Ring Binder, Metric Ruler, and Colored Pencils.
3. Handouts, Overheads, Slides, and Videos.

14. **Course Content** (Provide an outline of major topics covered in course)

1. Historical Astronomy  
2. Light and the Atom  
3. Tools of the Astronomer  
4. Earth and Sky Motions  
5. The Moon  
6. The Solar System: Planets and Moons  
7. Asteroids, Comets, and Meteors  
8. The Sun  
9. Properties of Stars  
10. Multiple Star Systems  
11. Stellar Evolution  
12. Variable Stars  
13. The Milky Way  
14. Galaxies  
15. Cosmology

15. **Learning Goals, Outcomes, and Assessment**  
At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:

A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)

B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)

C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)

D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one’s own traditions and culture, knowledge of others’ traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

*Course learning outcomes will fulfill the identified competencies:*

*Course Learning Outcomes:*
Upon completion of this course, students will be able to:

1. Explain why the moon goes through phases. (B, C)
2. Identify three Polar Zone constellations. (B, C)
3. Conduct internet research, and present in written report form, an assigned astronomy topic. (A, B)
4. Demonstrate methods used to measure angular distances on the sky. (B, C)

16. Minnesota Transfer Curriculum (MnTC): If this course fulfills an MnTC goal area, state the goal area and list the goals and outcomes below:

See www.mntransfer.org

Goal Area(s): 3

Goal and Outcomes:
   Goal: Natural Sciences
   Outcome:
Complete the following only if you are proposing a new course:

1. Planned pattern of offering:
2. Rationale for course: If this course is an ADDITION or replacement to current offerings, add a detailed explanation of the necessity for the change.
3. Does this course overlap with any course(s) offered at FDLTCC? If so, justify such duplication or indicate other adjustments to be made. Obtain signatures from affected departments.
4. What is the apparent or expressed student need for this course?
5. If this course includes a Native American or specifically Anishinaabe component list campus resource person/s—i.e., campus cultural/spiritual resource person/s and, if necessary, elder/s—consulted and include specific comments and written responses as appropriate.
6. Are there any additional licensing/certification requirements involved?
   a. Provide a copy of the required licensing/certification standards to the AASC chair and to the vice president of academic affairs.
   b. Attach the required documentation to show course meets required licensing/certification standards.
7. What types of tutoring will be made available through the CAA to students taking this course?
8. How will the course be evaluated?
9. Special resources—e.g. faculty, space, equipment, library, etc
10. Special course fees:
11. Relationship of course to the college mission statement and goals.
12. Relationship of course to the department’s mission statement and goals.
13. Relationship of course to colleges/university offerings (include tribal colleges).

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<th>Credits Awarded</th>
<th>General Education</th>
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