

Fond du Lac Tribal and Community College
COURSE OUTLINE FORM

Updated 11/25/14

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: Fall 1997 Date revised 05/13/15

4. Department/discipline: Mathematics

5. Department(s) endorsement(s): _____

(Signatures of the person(s) providing the endorsement are required.)

6. Course Title: Trigonometry

Abbreviated course title (25 characters or less): _____

7. Course Designator: MATH 8. Course Level: 1015

9. Number of Credits: Lecture 2 Lab _____

10. Control Number (on site) 35 Control Number (online) _____

11. Catalog/Course description:

Study of angles in degree and radians; trigonometry functions of angles in a coordinate system and in triangles; solutions of triangles and applications; solutions of trigonometric identities and equations; graphs of the trigonometric functions and inverses. (Prerequisite: MATH 0030 or equivalent) (Meets MnTC goal area 4). (Prerequisite: MATH 0030 Higher Algebra or equivalent).

12. Course prerequisite(s) or co-requisite(s): Accuplacer scores/ Other courses

Prerequisite(s): MATH 0030 Higher Algebra or equivalent

Co-requisite:

13. **Course Materials** (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).

1) Textbook: One suitable textbook is: College Trigonometry by Aufmann/Barker/Nation

2) Graphing Calculator

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

1. Introduction to angles and measure.
2. Trig function definitions.
3. Triangle applications including law of sines, law of cosines.
4. Identities and equations.
5. Graphing of trig functions on a coordinate plane.
6. Inverse trig functions.
7. Polar equations
8. The complex plane, De Moivre's theorem, and roots of unity

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, the student will be able to:

- 1. Solve applied problems using the definitions of trigonometric functions.
- 2. Solve triangles using the law of cosines and the law of sines.
- 3. Model periodic problems and graph their solutions.
- 4. Graph and analyze polar functions on the plane.
- 5. Solve applied problems using vectors.
- 6. Apply complex numbers in trigonometric forms.
- 7. Verify and use trigonometric identities to solve equations.

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): 4

Goal 4: Mathematical/Logical Reasoning