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: Calculus I

Abbreviated course title (25 characters or less): ________________________________


9. Number of Credits: Lecture 5 Lab ______

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

11. Catalog/Course description:

The two semester calculus sequence is designed for mathematics, computer science, engineering, and natural sciences majors. An introduction to basic differential and integral calculus: limits, derivatives & applications, integration & applications. (Prerequisite: MATH 1010 and MATH 1015 OR placement by Accuplacer OR instructor permission) (Meets MnTC goal area 4).

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

Prerequisite(s): MATH 1010 College Algebra and MATH 1015 Trigonometry OR placement by Accuplacer OR instructor permission.

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: Calculus by Thomas or Stewart are suitable choices.
2) graphing calculator

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

1. Review of algebra, review of trigonometry.
2. Limits and difference quotients.
3. Definition of the derivative, techniques.
4. Applications of the derivative.
5. Fundamental theorem of calculus and introduction to techniques.
6. Applications of integration.
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. Define the derivative of a function as a limit of its difference quotient, and compute
derivatives of simple functions analytically using the limit definition.  
2. Solve applied problems using properties of the derivative to find the maximum and
minimum of functions.
3. Solve geometric problems of planar area, curve length, surface area, and volume defined
by integrable functions.
4. Apply the fundamental theorem of calculus to problems in physics, economics, and other
fields.
5. Solve separable and first order differential equations.

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