Dual Credit MATH 107 – Precalculus

4 credits
Instructor: Patsy Schlosser, Edgeley High School

Course Description:

Equations and inequalities, polynomial, rational, exponential, logarithmic, trigonometric and inverse trigonometric functions, trigonometric identities and equations and applications

Pre-/Co-requisites: appropriate ACT or Acuplacer score

Course Objectives:

1.Students will demonstrate an understanding of relations and functions.

2.Students will be able to work with equations and inequalities.

3.Students will be able to work with complex numbers.

4.Students will be able to work with rational and polynomial expressions.

5.Students will be successful in working with exponential and logarithmic functions.

6.Students will be able to solve systems of linear equations.

7.Students will be able to work with angular measure in degrees and radians.

8.Students will be able to work with trigonometric and inverse trigonometric functions.

9.Students will be able to use trigonometric identities.

10.Students will be able to solve trigonometric equations.

11.Students will demonstrate an understanding of how to solve real world problems using trigonometry

Instructor: Patsy Schlosser

Office: Edgeley High School Room 48

Office Hours: 8:15-3:45 M-F

Phone: 701-493-2292

Email: patsy.schlosser@k12.nd.us

Lecture/Lab Schedule: M-F at 12:34-1:24

Textbook: Precalculus by Paus Sisson with Courseware through Hawkes Learning System

Tentative Course Outline:

Sets of numbers and interval notation and operations

Solving linear equations/inequalities to include absolute value

Solving quadratic equations/inequalities

Operations with complex numbers

Solving equations/inequalities in two variables

Relations and functions to include transformations, combinations, and inverses

Polynomial functions to include solving and graphing

Exponential and logarithmic functions

Trigonometry

Conic Sections

Matrices

Sequences, Series, Combinatorics, and Probability if time allows.

Course Requirements:

Math is learned best by practice, reflect, and practice some more. Understanding the examples provided by the instructor, ebook, and online resources is a good first step. However, to truly know the material, you should be able to look at a problem, know how to proceed, and carry out the steps WITHOUT ASSISTANCE. The independent practice problem provides opportunities for you to get to that point. Passing grades on tests demonstrate that you have learned the skills taught.

General Education Goals/Objectives:

Goal 2: Demonstrates knowledge and application of technology.
    Objective 2: Uses electronics resources for course related assignments and information
        Skill 1: Selects appropriate program on the graphing calculator to solve problems

Goal 2: Demonstrates the ability to convert, calculate, and analyze a variety of mathematical problems
    Objective 1: Utilizes mathematical equations to solve problems
        Skill 1: Solves equations and problems using the appropriate method
    Objective 2: Applies practical application of mathematics to everyday life
        Skill 3: Solves word problems

Relationship to Campus Theme:

The student will use the graphing calculator to model application problems in nature, economics, science, psychology, etc. Students will use an electronic based learning system along with traditional paper/pencil methods.

Classroom Policies:

Same as classroom policies for Edgeley High School classes

Grading:

30% of the grade will be taken from the online lessons through the Hawkes Learning System. Each lesson that the student certifies on will count as 100% on that lesson. Students have unlimited attempted to certify on a particular lesson. If certification is not done by the due date, 20% will be taken off for each additional day late. 70% of the course grade will come from paper pencil chapter tests taken in class.

Student Email Policy:

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity:

The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.

- Students must not cooperate on oral or written examinations or work together on evaluated assignments without authorization.

- If there is evidence of cheating, the student will receive an F on the assignment or exam.

Disabilities and Special Needs:

Students with designated disabilities and special needs will receive any modifications mentioned in their documentation.