

CONCURRENT CREDIT SYLLABUS

1. **Course Number and Title:** College Algebra and Trigonometry
2. **Course Description:** This course explores the concepts of Advanced Algebra, trigonometry and prepares you for more advanced topics of Mathematics. It will expand your knowledge of exponential and logarithmic functions, conic sections, graphs and polynomials. Students will begin the study of trigonometric relationships as well as trigonometric and polar functions and their graphs.
3. **Credit Hours:** 2 high school math credits. 6 college credits from NNU Concurrent Credit
4. **Course Prerequisites:** Completion of Algebra II with a grade of C or better
5. **Course Dates:** August 25, 2008 to May 29, 2009
6. **Course Times:** A Days
7. **Course Location:** Kuna High School, Room 213
8. **Instructor:** Gina Morgan 955-0200 ext 2055 (office)
E-Mail: gmorgan@kunaschools.org
9. **Required Text and Other Learning Resources:** Text provided by the school. Notebook, pencil and scientific calculator required. TI graphing calculator optional

10. **Course Overview:**

Fundamentals

Real Numbers, Exponents, and Radicals
Polynomials and Factoring
Algebraic and Fractional Expressions
Solving Equations and Inequalities

Functions

Graphs of Functions
Lines in the Plane and Slope
Translations and Combinations of Functions
Analyzing Graphs of Functions
Combining Functions
One-to-One Functions and Their Inverses

Polynomial and Rational Functions

Quadratic Functions
Polynomial Functions of Higher Degree
Dividing Polynomials
Real Zeros of Polynomials
Complex Numbers
Complex Zeros and the Fundamental Theorem of Algebra
Rational Functions

Exponential and Logarithmic Functions

Exponential Functions and Their Graphs
Logarithmic Functions and Their Graphs
Laws of Logarithms
Exponential and Logarithmic Equations

Matrices

Review of matrix operations
Matrix applications

Sequences and Probability

Sequences and Summations Notations
Arithmetic Sequences
Geometric Sequences
Mathematical Induction
The Binomial Theorem
Counting Principles
Probability

Trigonometry

Radian and Degree Measure
The Unit Circle
Right Angle Trigonometry
Trigonometric Functions of Any Angle
Trigonometric Graphs
Inverse Trigonometric Functions
Applications of Trigonometric Functions

Analytic Trigonometry

Fundamental Identities
Verifying Trigonometric Identities
Solving Trigonometric Equations
Sum and Difference Formulas
Double-Angle & Half-Angle Formulas

Topics in Trigonometry

The Law of Sines
The Law of Cosines
DeMoivre's Theorem

Analytic Geometry

Lines
Conics: Parabolas, Ellipses, Hyperbolas
Polar Coordinates
Graphs of Polar Equations

11. **Course Objectives:** Upon completion of this course, students should be able to do the following: Graph and solve polynomial, rational, exponential, logarithmic and trigonometric functions and recognize the solutions of those functions both graphically and algebraically. Have an understanding of trigonometric functions and their relationship to each other. Have an understanding of arithmetic, geometric and infinite sequences. Be able to solve simple probability problems. Graph conic sections and polar equations.

12. **Course Calendar/Schedule: Tentative dates for content and exams are:**

- a. 1st Quarter: Fundamentals and Functions
2nd Quarter: Polynomial, Rational, Exponential and Logarithmic Functions, Sequences and Probability, Matrices
3rd Quarter: Trigonometry
4th Quarter: Topics in Trigonometry, Analytic Geometry, Conics and Polars
- b. Assignments will be given each class period and due the next class
- c. Chapter exams will be given on **approximately** the following dates:

September 25, 2008 (Chapter 1)

October 29, 2008 (Chapter 2)

November 19, 2008 (Chapter 3)

December 18, 2008 (Chapter 9)

1st semester Final: Jan 12-14, 2009

February 20, 2009 (Chapter 4)

March 18, 2009 (Chapter 5)

April 15, 2009 (Chapter 6)

May 13-15, 2009 (Chap10 – 2 day test)

2nd semester Final: May 22-29, 2009

13. **Grading Policy:** All assignments, quizzes, and tests must be written in pencil. Work written in pen **will not be accepted**. Students must show their work and give thorough explanation to receive full credit. All work will be graded for accuracy of content, clarity of explanation, and presentation. Graded work may include but may not be limited to the following:

Your letter grade will be determined by the percentage of total points you have accumulated through homework and notes (15%), tests (60%), and the final exam each semester (25%). Both finals will be two day tests – one day with a calculator and one without. The grading scale is:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	Below 60%

14. **Course Policies:**

NO test retakes.

*****All work missed due to an unexcused absence will receive a zero.*****

Late assignments will be accepted for one-half credit only if you attend tutorial the day that the assignment is due. No late assignments will be accepted after the chapter test for those assignments.

Make-Up Work:

If an absence is excused, students will be allowed to make-up the missed work. Each student will be given two (2) days for each day absent to make up work. It is the student's responsibility to determine what work was missed on the day of the absence. It is the student's responsibility to schedule a time with the instructor to make-up quizzes or tests. All work missed due to an unexcused absence will receive a zero.

An absence is considered to be excused if a parent/guardian contacts the school, either in writing or by phone, by the third day of return to school.

Hall Passes:

In order for students to be successful in mathematics, attendance through out the entire class period is necessary. You may have two passes per quarter to leave the room, at my discretion. Hall passes may not be used during a lesson or in class activity. In addition, hall passes will not be issued during the first ten minutes of the period or the final ten minutes of the period. You will not be excused from class for any reason without a note from the office.

Discipline Policy

In this class you are expected to act in a mature manner and to follow all Kuna High School rules. In order to insure that all students will have the opportunity to learn, the following rules will be observed:

- Come to class prepared: on time (must be in the room when the bell rings), with paper, pencil (not pen), homework assignment, calculator and book.
- Follow directions.
- Remain in your assigned seat unless directed to do otherwise by your teacher.
- Use your class time well.
- Do not disturb others.
- No food, drinks, or personal electronics (iPods, CD players, radios, phones, gameboys, etc.). If you bring these items to class, I will take them and you can get them back during tutorial from the office.
- Dressed according to the district dress code.
- In accordance with Kuna High School policy, backpacks, fanny packs or purses will not be allowed in the classroom. If you bring those items to class, I will send you back to your locker to put them away and if you don't make it back to class by the time the bell rings, you will be counted tardy.

Students who do not comply with the rules will be subject to the following consequences. All consequences are cumulative. Severe misconduct is subject to immediate office referral.

- Warning by the teacher
- Parents are notified.
- Student referred to the office.

*The instructor reserves the right to make any necessary changes.