

GTCHS**ALGEBRA II****2001 – 2002****Instructor:**

Mrs. Gay Durham

Room:

117

E-mail:**Course Web Page:****Voice Mail:****Study Sessions:** Tuesday and Thursday, 3:15 – 4:15 P. M.

REQUIRED TEXTBOOK: *Algebra II: An Integrated Approach*, 1997, by Larson, Kanold, and Stiff; Pub. D. C. Heath and Company

OTHER REQUIRED MATERIALS: TI-83 or TI-83 plus calculator, pocket folder with brads to be used for portfolio, ruler, graph paper, pencils, pen, colored pencils, ruled paper

COURSE DESCRIPTION: This full year (one credit) course extends the concepts of Algebra I. Topics include the following: linear equations; systems of linear equations and inequalities; matrices and determinants; quadratic equations; complex numbers; functions (linear, polynomial, exponential, logarithmic, rational); mathematical modeling of the real world; powers, roots, and radicals; sequences and series; trigonometric concepts; conics.

Prerequisite: Algebra I (80 or better)

Geometry, Advanced Mathematics, Probability/Statistics, or Calculus follows Algebra II.

COURSE STRATEGY: Topics described in the course description will be learned through individual study, group projects, and research/reports.

COURSE PURPOSE: Upon successful completion of this course, the student

- ▶ will be a more intelligent consumer of numerical and graphical information,
- ▶ will have gained experience in collecting, processing, and presenting numerical information, both orally and in writing,
- ▶ will see the need for applications of mathematical concepts in his/her areas of interest,
- ▶ will have the necessary background for other courses where strong algebraic knowledge is required.

ATTENDANCE/

TARDINESS: Please give special attention to the *ABSENCE* and *TARDY* policies, as outlined in your student planner. The student who misses even a few days of class puts himself/herself at a severe disadvantage. Excessive tardiness is disruptive to class and is detrimental in the same way as an absence.

CLASSROOM/GROUP PROCEDURES: Please see attached page.

GRADING FOR**EACH NINE WEEKS:**

TEST AVERAGE	40%
PROJECT AVERAGE	30%
RESEARCH REPORTS	10%
PORTFOLIO*	10%
PARTICIPATION	10%

***YOUR PORTFOLIO WILL CONSIST OF TEST PAPERS, PROJECTS, AND REPORTS, GRADED BY YOUR INSTRUCTOR, CORRECTED BY YOU, AND ORGANIZED WITH A TABLE OF CONTENTS. REMEMBER THAT YOUR PORTFOLIO IS A CHANCE FOR YOU TO CORRECT MISTAKES THAT YOU MAY HAVE MADE IN PREVIOUS ATTEMPTS. THIS PORTFOLIO WILL BE TAKEN UP EVERY NINE WEEKS PERIOD, GRADED, AND RETURNED TO YOU. AT THE END OF THE COURSE, YOU WILL TURN IN YOUR PORTFOLIO AS A RECORD OF YOUR PERFORMANCE. TAKE PRIDE IN YOUR WORK.**

YEARLY GRADE: 1st semester average: 40% of final grade
1st semester exam: 10% of final grade

2nd semester average: 40% of final grade
2nd semester exam: 10% of final grade

GRADING SCALE: 90 - 100 MASTERY A
80 - 89 PROFICIENCY B
0 - 79 BELOW PROFICIENCY*

*** YOU WILL BE ASKED TO ATTEND STUDY SESSIONS, IF YOUR AVERAGE OR A UNIT TEST GRADE IS BELOW PROFICIENCY.**

UNITS*:

FIRST SEMESTER

- Linear equations
- Systems of linear equations and inequalities
- Matrices and determinants
- Quadratic equations and parabolas
- Powers, roots, radicals
- Functions

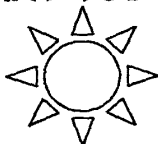
SECOND SEMESTER

- Exponential and logarithmic functions
- Polynomial functions
- Rational functions
- Quadratic relations (conics)
- Sequences and series
- Trigonometric concepts

*** MATHEMATICAL MODELING OF REAL WORLD SCENARIOS WILL BE INCORPORATED THROUGHOUT.**

THIS IS A TENTATIVE SYLLABUS. THE INSTRUCTOR RESERVES THE RIGHT TO MAKE ADJUSTMENTS AS NECESSARY.

IT IS HOPED THAT YOU WILL MASTER AS WELL AS THIS COURSE.



ENJOY



Classroom Procedures

1. Have all appropriate materials and supplies at your assigned desk, and be seated in your assigned desk before the bell rings.
2. Respect the people, equipment, and furnishings of Room 117.
3. No talking or moving around the room without permission.
4. Follow directions the first time that they are given.
5. Observe all rules in the *Student Handbook*.

→ Should you choose to stray from these procedures, "The Student Disciplinary Code," as detailed in the *Student Handbook*, will be invoked.

- ❖ Rewards for good behavior:
- Earning of good grades.
 - Passing grade at the end of the year.

Group-work Procedures

1. You may work with your assigned group only.
 2. Talking is limited to your group.
 3. Subject matter of discussion within group should pertain only to the task assigned.
 4. Noise level should remain low.
- Group time is a time for you to practice concepts discussed in class. It promotes understanding and allows me to work with you on areas of which you are not sure. Most importantly, working in groups enables you to relate mathematical concepts to real world scenarios.

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I HAVE READ THE GUIDELINES ILLUSTRATED ABOVE AND UNDERSTAND THE PROCEDURES AND CONSEQUENCES. I WILL ABIDE BY THESE PROCEDURES WHILE IN ROOM 117.

STUDENT SIGNATURE

DATE

PARENTS/GUARDIANS: I HAVE READ AND DISCUSSED THE CLASSROOM AND GROUP PROCEDURES, WHICH I UNDERSTAND AND WILL SUPPORT, WITH MY CHILD.

PARENT/ GUARDIAN SIGNATURE

DATE

THANK YOU FOR YOUR COOPERATION,


Mrs. Gay Durham

*COURSE UNITS, PROJECTS, TIME-LINE***FIRST SEMESTER**1ST NINE WEEKS:

August 9 - October 12

Unit I: Linear Equations (*Letter/Presentation Dealing with Student Autobiography, Goals, and Role of Math in Future Career; Microwave-Linear Modeling Project*)
8/9 - 8/28, TEST 8/29

Unit II: Systems of Linear Equations and Inequalities (*Linear Programming Project*)
8/30 - 9/17, TEST 9/18

Unit III: Matrices and Determinants (*Identity Matrix Project*)
9/19 - 10/9, TEST 10/10

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2ND NINE WEEKS:

October 15 - December 17

Unit IV: Quadratic Equations and Parabolas (*Cutting a Sandwich with a Cleaver Project*)
10/10 - 10/30, TEST 10/31

Unit V: Powers, Roots, and Radicals (*Power Modeling Project*)
11/1 - 11/19, TEST 11/20

Unit VI: Functions (*Poster: Functional Model for a Real-World Business or Sport*)
11/26 - 12/12, TEST 12/13

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MIDTERM EXAM REVIEW:

12/14 & 12/17

MIDTERM EXAM:

12/18 OR 12/19

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ALGEBRA II

2001 – 2002

INSTRUCTOR: DURHAM

COURSE UNITS, PROJECTS, TIME-LINE

SECOND SEMESTER

3rd NINE WEEKS:

January 3 - March 8

Unit VII: Exponential and Logarithmic Functions (*Million Dollar Project; Magic of Compound Interest Project*) 1/3 - 1/23, 1/24

Unit VIII: Polynomial Functions (*Pi Day Project; Prosperity and the Family Farm Project*) 1/25 - 2/14, TEST 2/15

Unit IX: Rational Functions (*Orange-Spot Disease Project*) 2/19 - 3/5, TEST 3/6

4th NINE WEEKS:

March 11 - May 21

Unit X: Quadratic Relations/Conics (*Conics Poster Project*) 3/7 - 3/28, TEST 3/29

Unit XI: Sequences and Series (*Fibonacci Sequence Project*) 4/9 - 4/26, TEST 4/29

Unit XII: Trigonometric Concepts (*Unit Circle Project; Letter Summarizing Student Synopsis of Course Experiences and Benefits Derived*) 4/30 - 5/16, TEST 5/17

REVIEW FOR FINAL EXAM:

5/20 & 5/21

FINAL EXAM:

5/22 OR 5/23