Ms. Susan Herrmann   COLLEGE ALGEBRA
Room: 1526   UMSL - MATH 1030
Phone: 314-415-7700 ext. 59754
e-mail: sherrmann1@parkwayschools.net
website: https://www.parkwayschools.net/Page/6345

Welcome to the 2019 – 2020 School Year

Schedule:

Block 1: Plan   Block 2: College Algebra
Block 3: College Algebra   Block 4: Academic Lab
Block 5: Algebra 1   Block 6: Algebra 1
Block 7: Algebra 1   Block 8: Plan

Expectations:
- Always come to class prepared with completed assignment, pencil, notebook, and calculator.
- Be on time and in your seat when the bell rings, otherwise you will be considered tardy.
- Do not bring any type of food or drink into class. Water is allowed.
- Be polite, courteous, and responsible young adults.
- NO HATS in class! NO PHONES in class!

Supplies:
- 3 ring binder 1" or 1.5" – Just for College Algebra!
- 8 Dividers
- loose-leaf paper
- pencils and erasers
- calculator (you need a scientific calculator with y^x (exponent) and $\sqrt{}$ (square root) keys. If you would like to purchase a graphing calculator we recommend the TI-84 orTI-NSpire.)
-

Textbook: Larson, Ron. *College Algebra,* ninth edition, Boston: Brooks/Cole, Cengage Learing.

On-Line Book: students will use the online resources of WebAssign, linked to their College Algebra textbook.

        Website: https://www.webassign.com   Resource: https://www.calcchat.com

        Class Key: parkwaysouth.mo 7721 6413   Help Line: 1-800-955-8275

Grading:

The grading scale is as follows: Your grade will be based upon Homework, Quizzes, Projects, Tests, and a Final Exam.
Your grade will be calculated as follows:

A: 93 – 100	C: 73 – 76
A-: 90 – 92	C-: 70 – 72
B+: 87 – 89	D+: 67 – 69
B: 83 – 86	D: 63 – 68
B-: 80 – 82	D-: 60 – 62
C+: 77 – 79	F: 59 or below

Homework	10%
Quizzes	10%
Assessments	60%
Final	20%
Total	100%

Assessments:
- All homework for a given unit must be complete **before** the unit assessment date for a student to be eligible to retake the assessment. After each assessment, students will be given the opportunity to retake the test after completing a "ticket to the test" accurately.
- Assessments are given regularly and are scheduled in advance. You are expected to take a test or a quiz <u>even if your miss the class prior to the assessment</u>. If you miss the day of a test or quiz, it is your responsibility to come in and **IMMEDIATELY** take the assessment you missed. It has been my experience that students who wait to make up assessments do not do well. You have one week (at most) to make up a missing assessment.

Homework:
- Homework will be assigned EVERYDAY! Homework, classwork, and quizzes are critically important since they are designed to ensure you struggle with and learn each standard.
- It is expected that each assignment is attempted in its **entirety**. I expect you to make mistakes on your assignments as it is part of the learning process, it is my hope that you will learn from these mistakes and ask for help if you need it.
- Each homework assignment will be graded out of 4 points.
  <div align="center">**ALL ASSIGNMENTS ARE EXPECTED TO BE DONE IN PENCIL!!**</div>

Quizzes:
- Quizzes will be given over homework and material learned from previous lessons in class on a regular basis.
- Some quizzes are open note/homework and therefore staying current on your homework is critical.

Improving your grade:
- You will have the opportunity to re-take assessments and improve your score, but only during specified days. Your new score will completely replace your previous score.
- To earn the right to re-take an assessment, you will need to produce evidence that you have improved your understanding and performance. This will include completing additional "Ticket to the Test" practice.
- Re-take assessments may be available after school, during school, or before school, but only on specified days.

Academic Integrity:
- Cheating is defined as acting dishonestly or unfairly in order to gain an advantage or defined as turning in any work that is not your own. This includes copying down someone else's homework. Cheating will warrant a zero on the assignment plus additional disciplinary action, in accordance with the student planner.

College Credit:

This class may be taken for 3 hours of college credit through UMSL. Registration for this take place in early January. Should you enroll in this class through UMSL, your grade will be based on the average of your semester grades in this class. The grade will go on your college transcript. Enrollment information can be found at: http://umsl.edu/acp

Tardies:

You are allotted one tardy per semester. Additional tardies will result in after school detentions.

Absences:

Excused absences DO NOT excuse you from the work you missed. Unexcused absences will result in an **after school detention and the loss of a learning opportunity.** Refer to the student handbook for information on multiple unexplained absences. You are responsible for getting and completing any work you missed due to absences.

Cell Phone Policy:

Cell phones are prohibited in my classroom. All phones should be set to silent or turned off and kept in backpacks for the entirety of class time, determined by the school bells. Cell phones that are out during class time will be taken away and repeat offenses will result in detentions, phone calls home, and/or the device being taken to your administrator.

I'm looking forward to a great year and I will do my best to be available to you if you have any questions or concerns. **Work hard and do your best!!**

UMSL MATH 1030: Topics in this course include factoring, complex numbers, rational exponents, simplifying rational functions, functions and their graphs, transformations, inverse functions, solving linear and nonlinear equations and inequalities, polynomial functions, inverse functions, logarithms, exponentials, solutions to systems of linear and nonlinear equations, systems of inequalities, matrices, and rates of change.

Course Objectives: Students will be able to:
- Use multiple representations of functions to interpret and describe how two quantities change together
- Measure, compute, describe, and interpret rates of change of quantities embedded in multiple representations
- Use appropriate tools and representations to investigate patterns and relationships present in multiple function types
- Create, use, and interpret linear equations and convert between forms as appropriate.
- Create, use, and interpret exponential and logarithmic equations and convert between forms as appropriate
- Create, use, and interpret polynomial, power, and rational functions
- Construct, use, and describe transformations, operations, compositions, and inverses of functions
- Use algebraic techniques to simplify expressions and locate roots
- Use algebraic reasoning to simplify a variety of expressions and find roots of equations involving multiple function types
- Use rational exponents to express and simplify a variety of expressions and solve equations
- Solve and apply systems of equations and inequalities

Course Schedule:

Unit Number	Unit Title	Topics Covered
1	Linear Functions	Linear Equations and Inequalities (Solving, Graphing, Writing, and Applying), Parallel and Perpendicular Lines, Rates of Change, Absolute Value Functions (solving, graphing, and inequalities)
2	Quadratic Functions	Solving (inverse operations, factoring, quadratic formula, completing the square), Graphing (standard and vertex), Quadratic Inequalities, Complex Numbers, Applications, Graphing Circles, Factoring
3	Functions	Relation/Function, Function Notation, Function Operations, Function Composition & Decomposition, Function Transformations (including stretches and compressions), Domain & Range, Inverses, 1-1 Functions
4	Systems of Equations	Solving Linear and Non-Linear Systems (graphing, algebraically, special cases, applications), Systems of Inequalities (graphing, linear & non-linear), Linear programming, 3x3 systems solving
5	Matrices	Converting systems into Matrices, Matrix Operations, Solving with Matrices (equivalent matrix equations, augmented matrices, graphing calculator)
6	Polynomial Functions	Sketching Graphs of Functions (max/min, intercepts), Polynomial Long Division & Synthetic Division, Remainder & Factor Theorems, Zeros of Polynomial Functions, Fundamental Theorem of Algebra, Factoring, Applications, Polynomial Inequalities, Rates of Change (linear vs average vs instanteous)
7	Rational Functions	Operations on Rational Expressions, Solving Rational Equations, Rational Inequalities, Domain of Rational Functions, Graphing, Vertical, Horizontal, and Oblique Asymptotes, Modeling
8	Powers, Roots, and Radicals	Rules of Exponents (integer and rational), Evaluate powers of numbers, Natural Number "e", Applications, Root Graphing, Solving Root Equations
9	Exponential & Logarithmic Functions	Graphing Exponential & Logarithmic Functions, Transformations of Exponential & Logarithmic Functions, Solving Logarithmic & Exponential Functions, Working with Common Logarithms and Natural Logarithms, Properties of Logarithms, Expanding & Condensing Logarithms, Modeling Using Exponential & Logarithmic Functions, Comparing Function Growth
10	Sequences & Series (if time allows)	Writing Sequences, Using Summation Notation, Recursive Sequences, Writing Arithmetic Sequences, Finite Arithmetic Sequences, Writing Geometric Sequences, Finding Sum of Finite & Infinite Geometric Sequences, Mathematical Induction, Binomial Theorem, Pascal's Triangle
12	Cumulative Final (Fall & Spring)	Final Exam – December (End of 1st Semester) Final Exam – May (End of 2nd Semester)