*Syllabus*

For

**10834110-9028**

*Elementary Algebra with Applications*

2018-2019

COURSES (34623)

**IMPORTANT DATES**

DATE CLASS BEGINS:                                            September 4, 2018

DATE CLASS ENDS:                                                   June 7, 2019

**THE CLASS AND THE INSTRUCTOR:**

COURSE SECTION AND TITLE: 834 10834110  Elementary Algebra with

Applications (5th and 7th hour)

INSTRUCTOR’S NAME:                                            Nick Harrison

LOCATION OF CLASS:                                                Room 2523

METHODS OF CONTACTING INTRUCTOR:   
Office Phone:                 608.767.2595 ext. 2523

e-mail:                                                                     nharrison@wisheights.k12.wi.us

OFFICE LOCATION:                                                 Room 2523

PHYSICAL OFFICE HOURS:                      4th Period

**COURSE DESCRIPTION:**

Introductory algebra course provides a thorough coverage of beginning algebra with an emphasis on problem solving for real world applications. Topics covered include operating with real numbers and applying the order of operations to simplify numeric expressions, applying the laws of exponents to operate with polynomials, factoring quadratic expressions, simplifying and solving linear and quadratic equations in one variable, solving 2x2 systems of equations, graphing linear equations in two variables, simplifying and solving equations containing a square root and simplifying and solving rational expressions. Meets five hours per week and satisfies prerequisites for Intermediate Algebra, Technical Math 1 and Industrial Math 1. Prerequisite: Suitable Compass Placement score.

**COURSE OUTLINE AND UNIT OBJECTIVES**

1. Use the properties of real numbers and variables.

Performance will be satisfactory when the learner:

a. Calculates the sum, difference, product and quotient of two integers individually according to the standard order of operations.

b. Calculates the sum, difference, product and quotient of two integers in combination according to the standard order of operations

c.  Simplifies all numeric results using the Commutative, Associative and Distributive properties.

d. Calculates the sum, difference, product and quotient of two rational numbers individually according to the standard order of operations.

e. Calculates the sum, difference, product and quotient of two rational numbers in combination according to the standard order of operations.

f. Applies the properties of exponents.

g. Simplifies a variable expression by combining like terms.

1. Solve first-degree equations and inequalities including those that arise from concrete applications

Performance will be satisfactory when the learner:

a. Solves accurately using multiplication and addition properties of equality to solve a first-degree equation.

b.  Accurately uses multiplication and addition properties of inequality to solve a first-degree inequality.

c. Solves a problem involving ratios and proportions.

d. Applies solution algorithms to solve word problems.

e. Validate an answer. 

3. Use the Cartesian coordinate system.

Performance will be satisfactory when the learner:

a. Accurately plots points on the Cartesian plane.

b. Accurately finds points for a given linear equation, identifies x- and y- intercepts.

c. Accurately determines the slope of a line.

d. Determines the equation of a line given the slope and a point, two points, and one point and the relationship of the line to another line.

e. Graphs an inequality in two variables in the Cartesian plane.

f. Solves a problem situation using the Cartesian plane.

4. Solve systems of two linear equations and inequalities in two variables.

Performance will be satisfactory when the learner:

a. Solves a system of linear equations using elimination.

b. Solves a system of linear equations using substitution.

c. Solves a system of linear equations by graphing on the Cartesian coordinate system.

d. Solves a system of linear inequalities by graphing on the Cartesian coordinate system.

e.  Uses a system of linear equations to represent and solve an application problem.

5. Perform operations with polynomials.

Performance will be satisfactory when the learner:

a. Identifies type of polynomial and its degree.

b.  Rewrites polynomials in standard form.

c.  Performs the basic operations of addition and subtraction of polynomials including monomials, binomials, and trinomials.

d.  Multiplies two binomials using FOIL and two polynomials using a grouping method.

e.  Divides a polynomial by a binomial using long division.

6. Solve factorable quadratic equations and their applications.

Performance will be satisfactory when the learner:

a. Factors out the greatest common factor.

b. Recognizes the standard forms of quadratic expressions including the difference of two squares and perfect squares.

c. Applies the appropriate factoring algorithm.

d. Solves application problems involving factorable quadratic equations.

7. Perform basic operations on rational expressions and solve rational equations.

Performance will be satisfactory when the learner:

a. Simplifies a rational expression by recognizing common factors in the numerator and denominator.

b. Finds the least common multiple of two or more denominators.

c. Accurately multiplies 2 or more fractions to create fractions with a common denominator.

d. Accurately operates with rational expressions including addition, subtraction, multiplication and division of two or more rational expressions.

e. Simplifies a rational expression containing one or more fractions in the numerator and/or denominator.

f. Solves rational equations by multiplying both sides by the least common denominator.

g. Solves application problems involving rational equations including work, distance and proportion problems.

8. Solve quadratic equations and their applications by selecting an appropriate method.

Performance will be satisfactory when the learner:

a. Solves a quadratic equation by factoring.

b. Applies the completing the square process to solve a quadratic equation.

c.  Analyzes completing the square as justification for the quadratic formula.

d.  Solves a quadratic equation by using the quadratic formula.

e. Selects the most appropriate method to solve a particular quadratic equation from the following methods: factoring method, square root method, quadratic formula.

f. Applies concepts involving a quadratic equation to solve application problems.

9. Simplify radical expressions.

Performance will be satisfactory when the learner:

a. Discusses what it means to take the square (or cube) root of a number.

b. By a satisfactory score on all tests, quizzes, or graded assignments incorporating this competency

c. Uses the Product Rule for Radicals to multiply and simplify by factoring out perfect squares (or cubes) from under a square (or cube) root symbol.

d. Adds and/or subtracts two or more radical terms, simplifying as necessary.

e. Applies the Quotient Rule to simplify a radical expression.

f. Rationalizes a denominator containing one or two terms

g.  Solves an equation containing a square root by isolating the square root and squaring both sides of the equation.

**REQUIRED MATERIALS:**

1. Title: "Beginning Algebra" Edition: 12th Edition Author: Lial, Margret L., John Hornsby, and Terry McGinnis Publisher: McGraw-Hill
2. Materials:

Pencils, pen, textbook, notebook, folder, and calculator (TI-30XIIS is a good one).

**DUAL CREDIT**

This is a dual credit course offered through MATC which means if you sign up and earn a C or better in the course and on the final 2nd semester cumulative exam, you will earn 3 math credits (No Cost To You!). You must pass the final exam to pass the MATC course. In other words, even if you have an A until before the final exam and fail the final exam, you fail the MATC course.

**ATTENDANCE AND PARTICIPATION (MATC and WHHS)**

As a student studying mathematics, you should be committed to allocating a minimum of six to ten hours a week of outside the classroom work. By doing problems at home, you will reinforce the concepts learned in the classroom. Completing assignments will insure that you are actively participating in the mathematics and not just observing the mathematics. This is an essential prerequisite for the successful completion of this course.

**Attendance is required and will be recorded at the beginning of each class session. It is the student's responsibility to notify the instructor and make arrangements to complete quizzes or tests missed due to an absence.**

Participation includes but is not limited to warm-ups, exit slips, doing your work in class and completing any activity in class when called on.

**GETTING EXTRA HELP**

You can also schedule time with me before or after school to get extra help. Depending on your schedule, there may also be an opportunity during the school day as well.

**HOMEWORK POLICY**

Homework will be assigned almost daily. No late work will be accepted. Only exception is excused absence based on the guidelines of the student handbook (that is, number of days absent plus one). You are expected to try all problems, to show all work all of the time, and to come in for help outside of class if you do not understand the material. Each homework grade will be out of 10 possible points. I will take into consideration the following: number of problems attempted, correct answers (random check), work shown and neatness.

WHHS – You will receive 2 late homework passes each semester.

**PARTIAL CREDIT**

It is always better to make attempts at problems rather than leaving them blank. It is also important that you show your work so that you can get credit for what you did correctly, even if the final answer is wrong. This goes for homework, quizzes and tests.

**ASSESSMENTS**

Each unit will have a quiz and chapter test. There will be a semester exam for the first semester, and a final exam at the end of the second semester that will cover the material covered in the entire year. Again, if you do not pass the final exam, you fail the course in terms of the MATC credit. You will receive a ‘W’ for ‘Withdrawal’ on your MATC records in this case.

Other assessments include warm-up questions or exit slips.

**RETAKING/MISSING QUIZZES AND TESTS PROCEDURES**

Tests and Quizzes will be one class period and cannot be made-up if missed for unexcused reasons for Madison College. An opportunity will be given to make up a test for WHHS.  **The lowest assessment score will be dropped.** Retesting may be allowed for your WHHS grade if certain conditions are met.

**ACADEMIC ACCOMMODATIONS**

If you require academic accommodations, please inform me by end of first week of school, I can discuss the accommodations that you might need in this class. It is best to request these accommodations at the beginning so there is ample time to make the accommodations.

**MAINTENANCE OF STUDENT RECORDS**

All student tests and quizzes will be returned to the student in a timely manner. At the end of the quarter, any work not returned will be held for one additional semester and will then be disposed of.

**Grading Breakdown**

Final grades assigned for the course will be:

MATC WHHS

         A 92 – 100% A 89.5 – 100%

         AB 89 – 91.99 %

         B 80 – 88.99 % B 79.5 – 89.49%

         BC 77 – 79.99 %

         C 68 – 76.99 % C 69.5 – 79.49%

         D 60 – 67.99% D 59.5 – 69.49%

         F 00 – 59.99% F 00 – 59.49%

The following table shows how your grade will be determined:

|  |  |
| --- | --- |
| **Assigned Work** | **Weighted Percent** |
| Homework and Participation | 20% |
| Quizzes | 30% |
| Chapter Exams | 30% |
| Final Exam | 20% |
| **Total Points** | 100% |

**ACADEMIC HONESTY STATEMENT**

It is expected that each student will complete his/her own scored assignments and exams.  If the instructor judges that dishonesty occurs, no credit will be given for the work in question. The college disciplinary policy is available in the counseling/advising center.

Academic Integrity is an expectation in all MATC classes.  Plagiarism and cheating are unacceptable in this class and in the workplace.  MATC has a strong policy on Academic Misconduct which is published on the MATC website.  This policy will be enforced in this class. Please refer to the MATC Website to review all Academic Integrity and Misconduct policies.

**PLAGIARISM**

Plagiarism is defined as the presentation of work that originates from another unacknowledged source as one's own.  Presenting someone else's ideas, argument, or information verbatim (or close to verbatim) without acknowledgement of the source in assessments, papers, or discussions, constitutes plagiarism.

**CHEATING:**

a) Giving, receiving, or using, or attempting to give, obtain, or use, unauthorized information or assistance during an assessment or an examination

b) Obtaining or conveying, or attempting to obtain or convey, unauthorized information about an assessment or examination questions

c)  Giving or receiving assistance on an essay or assignment that goes beyond that specifically allowed by the instructor (this includes buying and selling, or attempt to buy or sell essays and/or research assistance relating to course assignments)

d)  Impersonating someone else or causing or allowing oneself to be impersonated in an examination, or knowingly availing oneself of the results of impersonation

e)    Presenting a single piece of work in more than one course without the permission of the instructors involved

**TECHNICAL ASSISTANCE:**  Computer difficulties are not an excuse for non-participation.

**Syllabus Changes:**As your facilitator, I retain the right to make changes based on the timeline of the class, feedback from learners and/or logistical issues and will inform you as soon as a change is made.

**Personal Communication Devices (PCD)**

PCDs can be used before and after school, at lunch, in between classes, and so on, but not in the classroom. Per School Board policy: “Use of PCDs, except those approved by a teacher or administrator, at any other time is prohibited and they must be silenced and stored out of sight.”

* 1st offense – Student will be asked to put phone away or in a designated place in the room. The phone will be returned at the end of class.
* 2nd offense (and each offense hereafter) – Student’s phone will be placed in a designated place in the room for the rest of class. I will bring the phone to the office as soon as possible (but before the end of the day). Students or parents, depending on how many times this happens, will have to pick up the phone from the office at the end of the day. If the offense occurs near the end of the day, students may be required to turn their phone in for the following day.
* Refusal to put phone away or turn it over to the teacher/designated area in a timely fashion will result in a referral for insubordination.

Mr. Harrison’s Information Sheet Elem. Alg. With Applications

Student’s Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Please sign below, indicating you have read the syllabus for this class. If you have any questions or comments, please let me know in the space below or on the back of this sheet.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date

Please indicate any other information you would like me to know below (Examples – other activities/time commitments, special seating requests, anything you have found helpful in the past, etc.):

Dear Parents/Guardians and Students,

Elementary Algebra with Applications is a dual credit course offered by Madison College (MATC). Students have the opportunity to earn both high school and college credit if the course is completed successfully. Students are able to take the course just for high school credit if desired, but a student can earn 3 math credits at no cost to you through Madison College if the student registers for the course with them as well. Instructions on how to register online for the college credit will be sent home on the first day. Students have four weeks (until October 5) from the start of class to get registered. Let me know if the copy doesn’t make it home and you need it e-mailed to you. My e-mail is at the end of this letter.

There are a couple things to keep in mind as you make this decision together. If your student chooses to register through Madison College for the dual credit, he or she will be getting two grades for the course. They will get a Wisconsin Heights grade and a Madison College grade. I will be able to communicate things to you about their progress in regards to their Wisconsin Heights grade. However, due to FERPA regulations, I will not be able to communicate to parents about the Madison College aspect of the course. There will be some differences between the two grades. The big one is that the college grading scale differs from the high school grading scale (see syllabus). The other differences are that things like homework, quizzes, and tests may be dealt with differently depending on what lens we are looking at the course through. For example, after a quiz or test, I may allow a student to make corrections and retake it at the high school level, but that will not impact their Madison College grade at all.

There are certain requirements that Madison College expects in order to grant the dual credit. The other big requirement to keep in mind is this:

In order to earn the 3 math credits, the student must register and earn a C or better in the course and on the final 2nd semester cumulative exam. If either of those requirements are not met, the student will receive a ‘W’ for ‘Withdrawal’ on the Madison College records.

So, to be clear, even if the student has an A on everything up until the final exam, a grade of D or worse on the final exam will result in a grade of ‘W.’ Their Wisconsin Heights grade could still be an A, B, C, etc., but they would earn a ‘W’ for Madison College. On the other side of it, if a student is at a D or F overall after the final exam (even if they get an A or B on the final), they will get a ‘W’ for their Madison College grade. If they get a C or better on both requirements, they will earn 3 math credits at no cost.

If you have any questions at all about the dual credit option, please do not hesitate to ask. It’s a great opportunity for college credit if taken seriously by the student.

Sincerely,   
Mr. Harrison

nharrison@wisheights.k12.wi.us