UMA
UNIVERSITY OF
MAINE AT AUGUSTA
MAT 111: ALGEBRA II
HERMON HIGH SCHOOL
BRIDGE YEAR PROGRAM
2016-2017 SYLLABUS

Instructor: Stephen Vose **Room**: 208
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Class time: Blue Days Period 1 **Phone**: 848-4000 ext 1208

Course Description

This course includes advanced work in the topics of MAT 030, Algebra I. Additional topics include functional notation, systems of equations in two or more variables, matrices and determinants, and radical equations. Prerequisite: MAT 021, Algebra I (Part II), or MAT 030, Algebra I, with a minimum grade of "C" or higher, or appropriate score on the UMA Placement Test. (To insure proper placement students who took a different placement test should consider retesting prior to the start of class.) Students who do not meet the minimum standards listed above will not be permitted to remain in the class.

My job is to help you better understand math and algebra. Please do not hesitate to ask questions in this class. You may e-mail, call, text, etc. to ask me questions about any of the topics in this class.

Course Materials

1. Textbook: **Elementary and Intermediate Algebra plus MyMathLab access card package; Woodbury, 3rd Edition Pearson, ISBN 9780321760203**.
2. MyMathLab access: pearsonmymathlabmastering.com
    Class Identification Number: **vose25319**
3. Blackboard access: http://www.courses.maine.edu
4. TI 84 Graphing Calculator: A graphing calculator is required for this course. If you already have a graphing calculator, or if you have any questions, wait until after the first class before making a purchase. (Bridge Year note: The High School has some calculators but only for use in class.)
5. For watching videos or tutorials, a device with high-speed internet connection is required. (Bridge Year note: The High School has computers but for in school use only.)
6. Notebook with filler paper, this should be brought to every class, and to any tutor sessions you choose to participate in.

Assignments, Quizzes, and Exams

Homework
Students will have an assignment for each section of the text that is covered during lecture (see schedule). Students are expected to complete and keep these assignments on MyMathLab. If you encounter any

exercise that you answered incorrectly or are not sure about, you should: 1) post your specific question for an explanation of these problems; or 2) click on the help buttons on the right side of the screen in MyMathLab, ("Help Me Solve This", "View an Example", and/or "Ask My Instructor"). Even though the assignments are done online, it is best if you neatly write and solve the problems in your notebook. Problems should be clearly labeled with the chapter and section number and exercise numbers. The due dates are for guideposts only so students know where they should roughly be.

Quiz
Short graded quizzes will be given periodically. The quiz will be 1-4 multiple choice or short answer questions taken in class, on MyMathLab, or on Blackboard.

Project
The project is a long-term project graphing data and building mathematical models to match with the data. Details of the project will be given to you in a separate handout.

Exam
The exams for the course will be closed-note and closed book. The only items allowed on the desk during exams are: 1) the exam; 2) a pencil; 3) a supplied equation sheet; and 4) supplied scratch paper. You will be asked to remove any other items from your desk. The scratch paper will be handed in with the exam so it is to your benefit to have it well organized for awarding partial credit.
Each student is expected to progress at a rate that will enable him/her to complete the requirements of the course within the period of time allotted for the course. Any student having the ability and desire to progress at a faster pace than that described in the course outline is free to do so. For success in the course, it is expected that most students will spend 9 to 12 hours per week outside of class on the assignments and studying.

Grading

The grade for the course is broken down as follows:
        Homework – 10%
        Quizzes – 10%
        Exams – 60%(15% each)
        Project – 15%
        Participation - 5%

After your scores are weighted they will be rounded to the nearest whole number. This rounded number will then be translated into a letter grade as follows:

93 - 100 = A	80 – 82 = B-	67 – 69 = D+
90 – 92 = A-	77 – 79 = C+	63 – 66 = D
87 – 89 = B+	73 – 76 = C	60 – 62 = D-
83 – 86 = B	70 – 72 = C-	below 60 = F

Grades of **incomplete** will only be given in extreme circumstances. Please speak with your instructo and, when appropriate, the guidance office prior to requesting either an incomplete or withdrawal.

Students who desire to **withdraw** either from a course or all courses must do so in writing to the Registrar's Office. Failure to do so may result in failing grades being recorded in all courses at the end of the semester. During the first half of the semester, a grade of W is given to the student who drops the course. During the second half of the semester the instructor will submit a grade of W or WF, depending on the student's performance to date. Grades of W are not computed into the grade point average; a WF is computed as an F.

Attendance

Success in this course depends on regular participation in class activities and completion of homework and quizzes. I will check for class participation and homework each week. Students are responsible for all assignments and should regularly check in with their instructor. (Bridge Year note: students can access grades on power school.)

Students are expected to be prepared to take the exams in class when they are scheduled and any student who feels he/she is unable to take an exam at the scheduled time must contact the instructor prior to the exam to request an authorized make-up. Failure to notify the instructor will result in a zero on the exam. Make-up requests that result in an unfair advantage over the group as a whole will not be honored. Authorized make-ups must be taken within one week of the originally scheduled date. The final exam must be taken within 48 hours of the originally scheduled date.

Accommodations for Students with Disabilities

Students requiring special accommodations must contact the instructor prior to the third class. Documentation and appropriate recommendations may be required prior to establishing a specific accommodation. Students with disabilities should request accommodations from the University at the earliest opportunity in order to allow UMA adequate time to respond to the request.

Sources of Assistance

The MyMathLab program, a specialized web-based mathematics program that has been keyed to our course is available to all members of the class. This program allows the student to take practice exams, work within an individualized study plan, view video clips, do tutorials and practice additional exercises. More general computerized tutorials and tutors are readily available to all UMA mathematics students through either the Math Lab or over the web. Please contact the instructor for specific information regarding the availability of academic assistance.

Additional resources are listed below:
UMA Resources
- Math Lab o UMA-Bangor Cammpus

Hermon High School Resources
- **Math Tutor (Mrs. Haskell room 200)**

Online Resources
- How to Learn Math: For Students o "How to Learn Math is a free class for learners of mathematics. It combines
really important information on the brain and learning with new evidence on the best ways to approach and learn math effectively. If you have had past negative experiences with math this will help you change your relationship to one that is positive and powerful."
(https://class.stanford.edu/courses/Education/EDUC115-S/Spring2014/about 26 August 2014)
  o https://class.stanford.edu/courses/Education/EDUC115-S/Spring2014/about

- KhanAcademy
https://www.khanacademy.org/ 8 January 2014) o https://www.khanacademy.org/
is to provide a free, world-class education for anyone, anywhere. All of our resources are completely free forever, regardless of whether you're a student, teacher, home-schooler, principal, or adult returning to the classroom after 20 years.

- Desmos o An online graphing calculator and app o https://www.desmos.com/

- The Texas Instruments web site also has tutorials available to studnets. The following link may be of particular help: http://www.prenhall.com/divisions/esm/app/calculator/

Statement on Student Conduct
It is expected that students conduct themselves in such a manner as to not interfere with the educational experience of another student. Please keep in mind that your fellow students' learning style, tolerance for chatter, or necessary conditions for concentration may differ from your own. Please be considerate and ask if you think there is a chance that you might be disturbing another's learning. If your learning is being disrupted by another student: 1) inform the student(s) and allow them the opportunity to make the adjustment on their own; 2) if the problem persists, speak with the instructor; 3) if the problem persists, please report it to Kathy Dexter, UMA Dean of Students: 621-3153 E-Mail: dexter@maine.edu

The University of Maine at Augusta is committed to providing an environment free of violence and harassment based on sex and gender. Such civil rights offences are subject to the same accountability and support as offences based on race, national origin, etc. If you or someone else within the UMA community is struggling with sex discrimination, sexual harassment, sexual assault relationship violence, or stalking, you can find the appropriate resources at: http://www.uma.edu/about/title-ix-info/.

Academic Honesty
It is important to know about the University of Maine System policy on academic integrity. Violations of student academic integrity include any actions that attempt to promote or enhance the academic standing of any student by dishonest means (e.g. Cheating, plagiarism, fabrication, and academic misconduct).

Please refer to the UMS Student Conduct Code for definitions and procedures.

MAT 111 Course Schedule

This is a suggested schedule. The core assignment for each section covered in lecture is the chapter pre-quiz or all problems posted on MyMathLab.com. Additional exercises may be added to each assignment and will be assigned in class.

Quarter	Lecture	Concepts	Assignment
Q1	8.1 – 8.2 8.3 8.4 8.5	Ch. 8 A Transition	MML: Ch. 8.1 – 8.2 MML: Ch. 8.3 MML: Ch 8.4 MML: Ch. 8.5
	EXAM 1: Ch. 8		
Q2	9.1 9.2 9.3 9.4 9.5 9.6	Ch. 9: Radical Expressions and Equations	MML: Ch. 9.1 MML: Ch. 9.2 MML: Ch. 9.3 MML: Ch. 9.4 MML: Ch. 9.5 MML: Ch. 9.6
	EXAM 2: Ch. 9		
Q3	10.1 10.2 10.3 10.4 10.5 10.6	Ch. 10: Quadratic Equations	MML: Ch. 10.1 MML: Ch. 10.2 MML: Ch. 10.3 MML: Ch. 10.4 MML: Ch. 10.5 MML: Ch. 10.6
	EXAM 3: Ch. 10		
Q4	11.1 11.2 11.3 11.4 11.5	Ch. 11: Functions	MML: Ch. 11.1 MML: Ch. 11.2 MML: Ch. 11.3 MML: Ch. 11.4 MML: Ch. 11.5
	EXAM 4: Ch. 11		

Fundamentals of Mathematics MAT 111 Student Outcomes

Upon successful completion of this course the student will have demonstrated his or her ability to successfully complete the following assessment skills and have gained an understanding of the mathematical concepts upon which the specific skills are based. Assessment tools consist of 3 objective based examinations with a minimum average score of 60. Please note that these outcomes have been stated in very general terms. The expected skill level of each outcome will mirror the exercises presented in the textbook.

Concept	**Associated Skills**
Elementary Algebraic Skill	Operations with real numbers
	Simplify algebraic expressions
	Solve linear equations
	Solve absolute value equations
	Transform formulas
	Solve applied problems
Basic Graphing Tasks	Plot/name coordinates on a rectangular system
	Graph linear equations
	Determine rate of change and the slope of a line

| | Determine the equation of a line given the graph or related information |
| | Determine functional relationships and graph |

Solve Systems of Equations with 2 or More Variable	Solve graphically
	Solve algebraically
	Solve with matrices
	Solve with determinants

Solve Inequalities	Solve linear inequalities
	Solve compound inequalities
	Solve absolute inequalities
	Solve linear inequalities with two variables
	Solve systems linear inequalities with two variables

Exponents	Simplify exponents using the 6 basic exponent rules
	Convert scientific notation
	Solve applied problems using scientific notation

Polynomials/Polynomial Functions	Identify the basic parts of a polynomial or polynomial function
	Simplify polynomials
	Add, subtract, multiply and divide polynomials
	Factor polynomials by GCF, grouping, difference of two squares, sum and difference of two cubes, or through the use of trinomial factoring techniques
	Solve nonlinear equations
	Solve applied problems using systems of linear inequalities

| Rational Expressions | Simplify rational expressions |
| | Solve applied problems using direct, inverse |

and joint variation
Add, subtract, multiply and divide rational expressions
Simplify complex rational expressions
Solve equations containing rational expressions

Radicals	Graph radical expressions
	Convert radicals to real numbers with rational exponents and vice versa
	Simplify radical expressions using radicals or rational exponents
	Add, subtract, multiply or divide radical expressions
	Solve radical equations
	Solve applied problems using radicals
Quadratic Equations, Functions and/or Inequalities	Solve problems by completing the square and using the quadratic formula
	Graph quadratic functions
t	Demonstrate skill and understanding of graph ransformations
	Use the quadratic formula and completing the square to determine basic points on the graph
Systems of Equations and Inequalities Complex Numbers	Solve systems involving linear and quadratic equations and inequalities
Complex Numbers	Simplify complex numbers
	Combine, multiply, divide complex numbers
	Determine the type of roots using the discriminate
Technology	Solve problems using graphers and/or other appropriate forms of current technology
Diversity	Gain an appreciation for cultural diversity t hrough the association of applied problems