Math 124 - College Algebra with Applications, Spring 2020
Course Syllabus

Instructor: Brian Leary
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   Office: Learning Resource Center 323K
   Office hours: Mon 1-2, Tues 9:30-11, Wed 1-2:30, Thurs 1-3
Online General Tutoring: Tues 6:00pm-7:00pm

Class Room/Time: INN-B 110, MTWRF 12:00-12:50 pm
Course website: community.wvu.edu/~bal0018/math124S20.html (as a backup website, I will also try to keep the eCampus site updated)

Course announcements and/or assignments may be posted on the website or sent via email. Please be sure to check the website regularly, and to regularly check the email address you have on record. You are responsible for any information posted on the course website.
Textbook: Lial/Hungerford/Holcomb/Mullins, *Mathematics with Applications*, 11th edition

Catalog Data: MATH 124. Algebra with Applications. Credits 3. Study of algebra with an emphasis on applications for science, business, technology, and social science. Topics include graphing and solving problems using linear, quadratic, square-root, logarithmic, and exponential functions, solving equations, performing operations on matrices.
Prerequisite: Placement by ACT/SAT Math score or grade of C or better in MATH 122.

Course Material: This course focuses on developing algebraic skills with the goal of applying these skills to model real-world situations and solve real-world problems.
An outline of the topics covered can be found on the next page.

Course Objective: Upon completion of the course the student should have good algebraic manipulative skills, and good graphing techniques. This course satisfies GEF 3 (Mathematics & Quantitative Skills).

Learning Outcomes: Upon successful completion of the course, the student will be able to do the following:

1. Use the laws of exponents, and manipulate and simplify algebraic expressions containing fractional exponents, negative exponents radicals, and fractions.

2. Solve linear, quadratic, polynomial, and other equations.

3. Solve linear and quadratic inequalities.

4. Sketch graphs of linear and quadratic functions.

5. Work with logarithmic and exponential functions.

6. Solve a system of linear equations using matrix techniques.

Topics:

1. Basic Algebra (10 days - Chapter 1):

   (a) Exponential notation and algebraic expressions

   (b) Multiplication of algebraic expressions   (d) Rational expressions

   (c) Factoring   (e) Exponentials and radicals

2. Lines, Linear Equations, and Linear Inequalities (12 days - Sections 1.6, 2.1-2.4):

   (a) Graphs   (d) Linear models

   (b) Equations of lines

   (c) First degree equations   (e) Linear inequalities

3. Systems of Linear Equations (4 days - Sections 6.1-6.5):

   (a) Eliminating a variable   (c) Matrix operations (OPT)

   (b) The Gauss-Jordan method   (d) Matrix products (OPT)

4. Polynomial and Rational Equations and Inequalities (5 days - Sections 1.7 and 2.5):

5. Functions and Graphs (10 days - Chapter 3):

   (a) Functions   (d) Quadratic functions

   (b) Graphs of functions   (e) Applications of quadratic functions

   (c) Applications of linear functions   (f) Polynomial functions

6. Exponential and Logarithmic Functions (8 days - Chapter 4):

   (a) Exponential functions   (c) Exponential and logarithmic equations

   (b) Logarithmic functions   (d) Applications of exponential functions

7. Linear Programming (OPT - Sections 7.1-7.3)

   (a) Graphing linear inequalities in two variables

   (b) Linear programming: the graphical method

   (c) Applications of linear programming

Grading: Your final grade will be based on homework, quizzes, four exams during the semester, and the final exam. Your final course score will be the maximum of the following two grading schemes:

- 5% Homework + 5% Attendance + 5% Quizzes + 15% Exam 1 + 15% Exam 2 + 15% Exam 3 + 15% Exam 4 + 25% Final Exam

- 5% Homework + 5% Attendance + 5% Quizzes + 25% (highest grade of the four exams) + 15% (2nd grade of the four exams) + 15% (3rd grade of the four exams) + 30% Final Exam

Letter Grade Cutoffs: A: 90%, B: 80%, C: 70%, D: 60%, F: below 60%

Homework: Homework will be completed online with MyOpenMath.com. When you sign-up, you will use the Course ID and Enrollment Key given in class and posted on the eCampus site. Homework assignments will be due most Fridays.

Exams: There will be four exams, tentatively scheduled for Friday, January 31; Wednesday, February 26; Friday, March 13; and Wednesday, April 8. These will be 50 minute exams taken during the regular lecture time. The final exam time has been set by the university, and will be Monday, April 29 from 10:00-11:50. Make-up exams will only be given to students with excused absences, and such make-up exams must be scheduled within 24 hours of the missed exam.

Quizzes: There will be a quiz given on Friday of most weeks in which there is no exam. This will be a very brief quiz given at the beginning of class, intended to test you with more immediacy than the exams and with less consequence. The problems that appear on the quiz will be versions of the problems in the homework. Only your best 5 quizzes will count toward your grade, and there will be absolutely NO make-up quizzes.

Attendance: While I will not take attendance for the first week to allow schedules to finalize, I will begin taking regular attendance on Tuesday, January 21. From that point on, there will be approximately 65 lectures. If you miss no more than 9 of those lectures, you will maintain your full 5% for attendance. If you miss 10 or more lectures, you will lose one percentage point for each two lectures missed. (Note: Excused absences such as participation in athletics or clubs will not count toward your total of absences; however, having numerous excused absences may result in a reduction of the allowed unexcused absences as a proportion of the total potentially attended lectures. See me for clarification if you are concerned this may apply to you.)

Class policies:

- Graphing calculators will never be allowed during any exams. Scientific calculators will be considered on an exam by exam basis. You may use any calculator to help you do the homework if you wish, but you should keep in mind that you may be required to solve similar problems without a calculator on the quizzes and exams.

- While class attendance does not directly factor into your grade computation, attendance of each lecture is highly recommended. Regular attendance will tend to lead to better understanding of the course material, which tends to lead to better performance on exams.

- If you believe a problem on a homework assignment or midterm exam has been graded incorrectly, you must notify the instructor of your complaint within 7 days of the date the exam is handed back. If you are unable to retrieve your graded material at the time it is handed back, it is your responsibility to make arrangements with the instructor to retrieve the material at another time.

Getting Help: Always remember: asking for help when you need it is not a sign of weakness, but a sign of strength! Please feel free to come to office hours or email me if you have questions about the course material. If you are unable to make it to my regularly scheduled office hours, I am willing to make an appointment to meet at another time if possible. Additionally, you can get help in the Math Tutoring Lab in LRC 323 from 8 AM to 4:30 PM. Free tutoring is also available through Student Support Services, located in Benedum 130, and the Student Success Center, located in the library on the second floor of LRC. Finally, I would also encourage the formation of study groups, to learn from each other and help each other learn.

Institutional Policies: Students are responsible for reviewing policies on inclusivity, academic integrity, incompletes, sale of course materials, sexual misconduct, adverse weather, as well as student evaluation of instruction, and days of special concern/religious holiday statements. [Available at: https://tlcommons.wvu.edu/qualitymatters/syllabus-policies-and-statements]