MATH 050 Foundations of Algebra with MATH 045 Foundations of Algebra Support SYLLABUS SPRING 2019



<u>MATH045 Course Description</u>: A corequisite course intended to equip students with the skills needed to be successful in MATH 050 by providing support in fundamental mathematics. Topics include operations on real numbers, evaluation of algebraic expressions, solving equations, and operations on polynomials.

PREREQUISITE(S): Appropriate score on the mathematics assessment test or consent of the department. Two hours each week. TWO EQUIVALENT CREDIT HOURS. NOT APPLICABLE TO A DEGREE OR CERTIFICATE. MAY NOT BE USED TO SATISFY DEGREE REQUIREMENTS. NOT INCLUDED IN GPA CALCULATION. COREQUISITE(S): MATH 050 Foundations of Algebra Assessment Level(s): AELW 940/ELAI 990, READ 120, or AELR 930/ELAR 980. Two semester hours.

MATH045 Course Outcomes: Upon course completion, a student will be able to:

- Perform operations with real numbers.
- Evaluate expression using the orders of operations.
- Perform operations with polynomials.
- Solve linear equations and graph linear functions.

MATH050 Course Description: An examination of algebraic skills and concepts intended to prepare students for MATH 130, MATH 150, and MATH 165. Numerical, graphical, and algebraic approaches are represented throughout as well as application. Topics include operations on polynomial and rational expressions, analysis of quadratic and rational functions and graphs, solving quadratic, rational, and radical equations, and graphing and evaluating polynomial and exponential functions. PREREQUISITE(S): *Appropriate score on the mathematics assessment test; or concurrent enrollment in MATH 045; or consent of the department. Assessment Level(s): AELW 940/ELAI 990, READ 120, or AELR 930/ELAR 980. 4 hours each week. 4 semester hours. FOUR EQUIVALENT*

CREDIT HOURS. NOT APPLICABLE TO A DEGREE OR CERTIFICATE. MAY NOT BE USED TO SATISFY DEGREE REQUIREMENTS. NOT INCLUDED IN GPA CALCULATION.

MATH050 Course Outcomes: Upon course completion, a student will be able to:

- Use properties of exponents to simplify expressions and combine terms.
- Demonstrate the ability to perform operations on polynomials.
- Factor polynomials using the greatest common factor, grouping, and formulas.
- Evaluate functions as well as identify their domains and ranges.
- Find inverse of linear, exponential, and logarithmic functions.
- Construct graphs of linear, quadratic, exponential, and logarithmic functions.
- Solve quadratic, rational, radical equations as well as systems of equations using graphical and algebraic approaches.
- Simplify and perform operations on radical and rational expressions.
- Use technology to graph linear, quadratic, radical, exponential, and logarithmic functions, and systems of equations and interpret and analyze the graph.

<u>Course Format</u>: Students will take an Initial Knowledge Check to determine what material they already know and what material they are ready to learn. Students will earn credit for any topics mastered in this initial assessment. Each week, at least two homework assignments will be due and every student is required to complete a certain new number of topics. Tests will use adaptive technology and be given in the classroom. Students can accelerate the pace of this course.

Course Orientation Videos: www.wittemath.com/NEW.htm

<u>MATH045 & MATH050:</u> You are technically enrolled for two courses although it will be treated as one except for the grading policy. If you drop one of the courses, you will be dropped from the other. You are registered for a total of 6 credit hours. If you are not prepared to put this time into the course, you should meet with an academic counselor to discuss an alternative academic program.

<u>Required Supplies</u>: Students are expected to be prepared for every class including having a notebook, pencils, and erasers. Do NOT come to class expecting your instructor to provide these resources for you.

- ALEKS Access Code. Can be purchased online at <u>www.aleks.com</u> or at MC bookstore. Comes with ebook. ALEKS360. Textbook: *Beginning & Intermediate Algebra 5th edition, Miller, O'Neill, & Hyde.* Students should buy the 18 week access code.
- Earbuds
- Notebook (The bookstore sells an ALEKS Notebook as an optional item. You will need a 3 ring binder if you purchase this notebook.)

NOTE: A handheld calculator is NOT ALLOWED for this course unless approved under a DSS Accommodation. The ALEKS program provides calculators within the system when appropriate.

Course Grading Policy:

Assignments by Due Date:	10%
Weekly New Topic Goals:	<mark>5%</mark>
Tests:	<mark>65%</mark>
Final Exam:	20%

A grade of A, B, C or U is awarded when the Final Exam is completed and the final course average is:

Note: If a student does not take the Final Exam, a grade of U is entered regardless of the overall course average. The lowest test grade with least weight will be replaced with the Final Exam grade, assuming it benefits the student. Any grade of 0 due to academic dishonesty is not eligible to be replaced.

MATH045 Grade: If the MATH050 grade is A, B, or C, the student earns a grade of S for MATH045. If the MATH050 grade is U and the student's Final Exam grade is greater or equal to 60%, the student earns a grade of S for MATH045. Otherwise, student earns a U in both courses.

<u>Attendance Policy</u>: Students are expected to attend all class sessions for both MATH045 and MATH050. A student may be dropped from either course for missing more than one week's worth of classes. If a student is dropped from either MATH045 or MATH050, the student will also be dropped from the other course.

Initial Knowledge Check Day 1: On the first day of class, students will start the Initial Knowledge Check. Any student that does not finish it can continue the next class day. Although it is not graded, it should be taken seriously as it can affect the number of topics a student needs to learn. The assessment uses adaptive technology to determine which topics a student already knows and which topics a student needs to learn. Students are given "credit" for any topic they already know. This reduces the number of topics a student needs to complete in each of the assignments.

<u>ALEKS Pie:</u> At any given moment, a student can see the percentage of the course he/she has learned by viewing the ALEKS Pie. Any topic not mastered is placed back into the learning path when it is needed. This means that students may see their pie percentage decrease after tests. This is not part of the course grade but rather an indicator of student progress. Students are encouraged to always move forward as lost topics will come automatically back in future assignments. Use the **CONTINUE MY PATH** or **MOVE AHEAD** buttons.

<u>Reports & Gradebook:</u> Students should spend time reviewing their ALEKS *Gradebook* and *Reports*. These can be found using the drop down main menu in ALEKS. The *Gradebook* reflects your current overall average in the course. Students should also focus on their *Progress Report, Time and Topic Report*, and *Needs More Practice Report* (these are the topics lost on the most recent test.) See your instructor for more information.

<u>Assignments</u>: Assignments are due several times a week (see course schedule for due dates). An assignment consists of several topics with each topic requiring the student to master several variations of the problem.

A student's grade for each assignment is determined by the percentage of topics completed by the due date at 11:59pm. If a student misses topics in an assignment, the student will move to the next assignment. Any missed prerequisite topics will automatically be added to future assignments when they are needed. A "catch up" assignment is due before each test and consists of possibly a few new topics and all topics since the last test. A student who is behind will still lose points for not completing the original assignment on time but will now have an opportunity to complete missed topics before the test. Students who completed assignments on time will not have to repeat these previous topics.

Assignments based on MATH050 topics are weighted five times the weight of MATH045 topics.

Depending on how a student scored on the Initial Knowledge Check, he/she probably "learned" some topics. It is entirely possible for a student to master all topics in a given assignment and automatically earn 100% for that assignment. The student can then continue working on the next assignment or any topic that the system identifies as "ready to learn". It is recommended that students follow the system using the WORK AHEAD button within ALEKS and not go back to previously due assignments. If a student has no topics in the carousel, the student should go to FILTER, SHOW ALL ASSIGNMENTS.

<u>Weekly Topic Goals</u>: Regardless how well a student does on the Initial Knowledge Check, students are required to learn a certain number of new topics per week. For example, a student may already have credit for all topics in Assignment 1A after the Initial Knowledge Check and will immediately earn 100% for Assignment 1A. However, the student is still required to complete a certain number of topics by Sunday night at 11:59pm. Most students will meet the topic goals just by completing the assignments on time.

<u>Tests:</u> Tests are scheduled often as stated in the course schedule and are based on the percentage of material a student is expected to know by that date in the course. For example, Test 1 occurs during Week 2 and a student is expected to know 20% of the course by that date. If the student only masters 15% of the course, he/she earns a grade of 15/20= 75% for that test. The highest score a student can earn on any test is 100%. Every test is personal and adaptive to that student – no one will be taking the same test. Any topic not mastered in a test will be placed back into the student's pie.

A student may find questions on tests that he/she hasn't learned yet but the system determined that the student is ready to learn. If the student answers the question(s) correct, he/she will earn credit for that topic in future assignments. If he/she answers it incorrectly, it has no effect on the test grade.

Students are responsible for writing each test question down and showing all work. Students and instructors are unable to see exact questions missed on a test. However, you can find out which topics you lost by going to **Reports, Needs More Practice**.

If a student does not finish a test during the allotted class time, the student can finish it in the next class meeting. If a student does not finish the test by the end of the second class period, he/she must click "I don't know" until the test is submitted.

Tests are not weighted equally. Test 1, Test 2, and Test 3 are all weighted the same. Midterm, Test 4, and Test 5 are worth twice the weight of Test 1. Test 6 is worth four times the weight of Test 1. Test 3, the Midterm, Test 6 and the Final Exam are comprehensive tests while the others are progress tests. Progress tests focus mostly on recent learning where comprehensive tests focus on the entire course.

All students must take the Final Exam to earn a passing grade in the course. If a student does not take the Final Exam, a grade of U is entered regardless what the ALEKS gradebook states. If a student does not finish the Final Exam in the allotted time, the student must click "I don't know" until the test is submitted. If a test is not submitted, the student may earn a 0 on the Final Exam.

Below is the expected percentage of mastery for each test. For example, to earn 100% on Test 2, you must show mastery of ANY 35% of the topics in the course.

Test	Expected Percentage of Course Mastery
Test 1	20%
Test 2	35%
Test 3	50%
Midterm	65%

Test 4	75%
Test 5	85%
Test 6	95%
Final Exam	100%

<u>Makeup Policy:</u> There are no retakes of tests and there are no makeups. If a student misses class on the test date, he/she will earn a 0 on it. However, students will be required to take a knowledge check during the next class meeting that will not count towards the overall course grade but may alter the number of topics in the ALEKS pie. **Students who start the test but do not return to the next class period to finish it will earn a 0 on the test.** Keep in mind that the lowest test score will be replaced with the Final Exam score this allows students to miss one test (not the Final) without penalty due to illness or other emergencies. Students with religious or college-sponsored absences such as sport teams must notify their instructors ahead of time to arrange to take the test in the Assessment Center.

<u>Accelerated Pace:</u> Students may accelerate the pace of this course and finish early. Students can work as much as they want and learn as many topics as they wish each week. However, they will continue to test in class on schedule. If a student completes 100% of his/her pie before Test 6, the student may request to take the Final Exam. To pass the course, a student who takes the Final Exam early must earn 85% on it. Otherwise, the student will continue in the course as usual. A student who takes the Final Exam early can request to retake it when 100% of the pie is rebuilt as long as it is before Test 6. A student who earns 85% or higher on the Final Exam will earn that percentage for any remaining tests and 100% for any remaining weekly topic goals.

*Students who earn 100% of their pie after Test 6 will take the Final Exam during the scheduled Final Exam time but will earn 100% on the remaining weekly topic goals.

There is no minimum score on any test for a student to pass the course. The overall average in the course determines the course grade. The 85% minimum only applies to students who want to finish early.

If the student fails to finish the course (that is, fails to get the required percentage to earn a C (70%) by the last day of classes), then the student will need to re-register for this course.

If you finish the course early, ask your instructor for information on continuation courses to help prepare you for your next math class. These courses DO NOT count towards placement. They are just for review/prep.

If the student fails to finish the course (that is, fails to get the required percentage to earn a C (70%) by the last day of classes), then the student will need to re-register for this course.

Email Communication Statement:

MC student email is an official means of communication for Montgomery College. Students are responsible for information and announcements sent via MC email, and it is expected that students check their student email regularly. Since this class uses online software, you are also expected to check your ALEKS email account regularly. When emailing an instructor, it is expected that students use their MC student email account. Students are expected to use appropriate and professional writing when emailing instructors to include your name, course, and class meeting times.

Math Science Centers:

Below are the locations and contact information of the three campuses' math resource centers, where students can get free tutoring and other resources. You should verify the hours but all are open evenings and weekends.

- Rockville Campus, Ackerman Learning Center, SW 100, 240-567-5200. http://www.montgomerycollege.edu/Departments/mathscrv/
- Germantown Campus, Math Accounting Physics Engineering Learning (MAPEL) Center, HT229, 240-567-1947. http://cms.montgomerycollege.edu/edu/department2.aspx?id=18038
- Takoma Park / Silver Spring Campus, Math Learning Center, P1-101, 240-567-1675. https://cms.montgomerycollege.edu/MathLearningCenterTP/

<u>Classroom expectations</u>: Students are expected to conduct themselves in a professional manner while in the classroom. No food or drinks are allowed in the classrooms. **Cell phones must be put away before entering the classroom.** You must come to class prepared with your notebook and pencils.

<u>Audit Policy</u>: A student who has registered for AUDIT in this class is just like the student who registered for credit. He or she MUST attend class, do the assignments, and take the tests. The only difference between an AUDIT student and a CREDIT student in this class is what grade appears (or does not appear) on the transcript.

<u>Academic Honesty</u>: See the Student Code of Conduct-"Academic Dishonesty and Misconduct." (Go to MyMC online.) Any cheating, which includes any unauthorized cooperation on any graded assignments, will be dealt with as severely as college policy allows. The following are a few examples: using notes during testing, getting help from others during testing, having a phone or unauthorized calculator during testing, leaving your seat during testing, and having conversations with others during testing. The penalty may range from no credit for the assignment up to and including exclusion and/or "U" grade for the course.

<u>If the college is closed</u>: Because of inclement weather or utility failure or for other reasons, it may be necessary to cancel classes for the College or an individual campus. If such conditions force the College to close, **you can AND SHOULD continue with all work as usual** and check your email for information from your instructor. In such a case, public service announcements will be provided to local radio and television stations as early as possible. The information is also available through the college web site or by calling the MC Information Line at 240-567-5000. You are encouraged to sign up for Montgomery College ALERT, a system which will automatically send a text or email message to you in the event of closures or emergencies.

Accommodations for Students with Disabilities Statement: Any student who may need an accommodation due to a disability should meet with the instructor as soon as possible. A letter from Disability Support Services authorizing your accommodations is required. Any student who may need assistance in the event of an emergency evacuation must identify to the Disability Support Services Office; information on DSS services and guidelines for emergency evacuations for individuals with disabilities are found at: http://www.montgomeryco/lege.edu/counseling-and-advising/disability-support-services.html

Important Student Information Link

In addition to course requirements and objectives that are in this syllabus, Montgomery College has information on its web site (see link below) to assist you in having a successful experience both inside and outside of the classroom. It is important that you read and understand this information. The **link below provides** information and other resources to areas that pertain to the following: student behavior (student code of conduct), student email, the tobacco free policy, withdraw and refund dates, disability support services, veteran services, how to access information on delayed openings and closings, how to register for the Montgomery College alert System, and finally, how closings and delays can impact your classes. If you have any questions please bring them to your professor. As rules and regulations change they will be updated and you will be able to access them through the *link. If any student would like a written copy of these policies and procedures, the professor would be happy to provide them. By registering for this class and staying in this class, you are indicating that you acknowledge and accept these policies.*

http://cms.montgomerycollege.edu/mcsyllabus/

Course Changes: The instructor reserves the right to alter the schedule of the course if necessary but will notify the students of any changes via the ALEKS email system before the changes are implemented.