Welcome to the Program for Accelerated Student Success, hereafter referred to as PASS!

Why is mathematics important?
Math is used extensively in everyday problem solving—balancing a checkbook, determining miles-per-gallon for your car, checking your change from a cash transaction, understanding the interest payments when purchasing a car or home, determining the batting average of a high paid baseball player, counting your calories, etc. Math is an everyday tool, the skills for which are required in many, if not most, jobs and careers. It also instills logic as problem solving consists of a sequence of steps which must be followed in a particular order for correct results. Logic carries into other subjects and avenues of life. Math will help you maintain and develop the reasoning skills needed to solve more complex problems. Being grounded in mathematics opens the door to success in many other fields, which is why most colleges and universities require at least one credit-level mathematics course.

What are "Developmental Math" courses?
MAT 023, MAT 031, and MAT 032 are referred to as "developmental math" courses because they prepare you for taking a credit-level math course. Each developmental math course meets for either:
- 3 hours per week (3 load hours) - either two 75 minute classes per week or one 165 minute class per week
- 6 hours per week for summer classes (3 load hours) - two 165 minute classes per week

You will not earn college credit for completing this developmental course. You must receive at least a 70% overall average in a developmental math course to proceed to the next course. When you have met all of your developmental math requirements, you will be ready to take your credit-level math course.

What if I took this course last semester but did not complete it?
Your grades will be imported into this semester's MML course and you will pick up where you left off. If you took this course two semesters ago but did not complete it and did not take it last semester, you will need to begin the course again starting with the first Mini-Mod.

What is PASS?
The Program for Accelerated Student Success is a "mastery-based" program designed such that you have the potential to move more rapidly through your developmental math courses. In a "mastery-based" course, you must demonstrate proficiency in material A before proceeding to material B. All three PASS math courses - MAT 023, MAT 031, and MAT 032 - consist of a series of modules that you will move through and master one at a time. Each of these covers a general math topic, such as "Operations with Decimals". They are fairly short, so we call them "Mini-Mods" or MM. You will use a notebook and an on-line program named MyMathLab as you master the material in each Mini-Mod. All Mini-Mods required for a particular course must be completed prior to taking the final exam for that course.

The three developmental math courses cover MMs 1 - 33 with the exceptions of MMs 7 and 10. The MMs covered in each course are listed on the course pages at the end of this syllabus. In addition there are two bootcamps that contain supplemental material to help students transition from developmental math to credit-level math courses. These bootcamps are available to all students once they complete their final developmental math course but are not required.

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1 Course Specific information is located on the specific course pages at the end of this syllabus.
What are the PASS benefits over a traditional lecture course? PASS lets you --

- **Stick with a topic until you understand it**
  
  *Have you ever been left behind as your teacher has moved on to another topic when you still didn’t understand the previous topic?*

  PASS courses are personalized to your needs. You will not move on to material B until you have mastered material A.

- **Skip already-mastered MMs**
  
  *Have you ever had to sit through a class with a teacher lecturing at the board even though you fully understood the current chapter?*

  You can skip MMs that you already know by scoring an 80% or higher on the related pretest.

- **Get feedback on test questions**
  
  *Have you ever taken a test and received the results but not been able to find out what you did wrong?*

  As a PASS student you can ask an instructor to go over your test with you.

- **Reduce your math and test anxiety**
  
  *Have you ever been stressed about an upcoming test because you did poorly on the previous test?*

  As a PASS math student, you must score an 80% or higher on a test in order to proceed to the next MM. But there’s no reason to be anxious because you can retake the test in order to meet this requirement. In addition, you can receive feedback from your instructor on what you missed on your first attempt before you retake the test.

- **Pump up your arithmetic skills**
  
  *Have you ever found it hard to learn a new concept because your skills were rusty?*

  The content of math courses generally builds on what has already been taught. Because you must master a set of concepts and skills before proceeding, you will retain those skills longer and you will find it easier to learn future material. When you take the final exam, you will better remember material from the early part of the course.

- **Begin working in a second developmental math course in one semester**
  
  *Have you ever finished your course work early before the end of the semester and found yourself wishing that you could begin working on the next course?*

  Before PASS math was implemented, students could only take one developmental math course per semester, which may have slowed their entrance into credit-level math courses. PASS math gives motivated students the opportunity to begin a second PASS math course within a single semester even if they’re only registered for one course. If you complete a developmental math course and begin the next course in a single semester, you get to skip the review MMs at the beginning of the second course.

- **Complete two developmental math courses in one semester**
  
  *Are you trying to complete your developmental courses quickly so that you can complete the credit-level math course required for your program?*

  PASS math gives motivated students the opportunity to take multiple PASS math courses within a single semester even if they’re only registered for one course. If you opt to complete more than one PASS math course per semester, you will need to be organized and dedicated to keeping up with the schedule.
What materials are required for this course?

1. **Text:** The Developmental Mathematics yellow notebook is bundled at the College Bookstore with a MyMathLab access code and a Study Skills guide.
   - Authors: John Squires & Karen Wyrick.
   - Publisher: Pearson; ISBN 9781256971184.
   - **Important!** Bring your notebook to every class.
     If this is your first attempt at a PASS Math! course, bring your MML access code to the first class meeting so that you can set up your account at that time. You will not need to repurchase MML for any other PASS Math! course.

2. **Instructional Supplies:**
   a. 3-ring binder (at least 2") to be used exclusively for this course.
   b. Lined loose-leaf paper or a spiral notebook.
   c. Pencils with erasers. **Work completed in ink must be rewritten in pencil.**

   You **must** show all of your math work in the yellow notebook and on loose-leaf paper which will be kept in your binder (or spiral notebook). This occasionally involves taking notes from the MyMathLab videos and short lectures. Thus, you must bring your yellow notebook, binder, and supplies to every class. **Each set of exercises must have the assignment name labeled, problems numbered, and work written neatly.**

3. **Calculators** The mathematics department has developed a standardized calculator policy for every math course at Chesapeake College. The approved calculators are -

<table>
<thead>
<tr>
<th>MAT 023</th>
<th>MAT 031</th>
<th>MAT 032</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 function, no +/- key</td>
<td>4 function</td>
<td>Scientific (ex. TI-30X)</td>
</tr>
</tbody>
</table>

   **Graphing calculators are not permitted in developmental math courses.**

What if I forget my calculator?
Calculators will be available in the classroom for occasional check-out.

Can I use my cell phone as a calculator?
**NEVER!!!** Cell phones should be silent. Using a cell phone during class will result in lost performance points. Use the approved calculator for all coursework. If you use a different calculator outside of class, you may be in for a surprise when taking proctored tests and pretests using the calculator prescribed for your course. If you must be reachable by cell phone, put it on vibrate and notify your instructor.
What if I am enrolled in two developmental math courses?  (only available during fall & spring semesters)

You will attend all scheduled class times for both courses throughout the entire semester.

As an example, you may be enrolled in both MAT 023 and MAT 031 in a single semester.  If so, at the beginning of the semester, you will only be working in the MAT 023 MyMathLab course until you have completed all the required MM's and the final exam.  Once you have successfully completed MAT 023, you will begin working in the MAT 031 MyMathLab course during all class sessions until you either complete the course or the semester ends.  This is also the case if you are registered to take both MAT 031 and MAT 032 during a single semester.

What is MyMathLab (MML)?

MML (www.mymathlab.com) is online software that was designed to provide you with multiple learning aids and tools that have been organized to meet your mathematical needs.  It provides you with a personalized interactive learning environment where you can easily proceed to the next subject matter once you have mastered the previous one.  MML will provide you with your grade on an assignment upon completion.  MML also includes a number of assignments that will allow you to skip over any assignments based on skills you already know.

If you do not have a computer at home with Internet access, you will need to be diligent about completing your work on campus as lack of access and/or computer down-time are not valid reasons for being behind schedule.  There will be "Open-Lab" hours available in which students can come to the lab to quietly work on their assignments while a class is in progress.  Instructors and tutors will be available for help; however, students enrolled in the active class will have priority over open-lab students.  See the Open-Lab Schedule on Google Drive (via Canvas) for more details.  If the college is closed for any reason, you should still continue to work on your MML assignments according to the Course Schedule.  The D-days (Deadline dates) will remain the same, unless the College extends the semester.  In this circumstance, your instructor will provide specific details.

How will I use MyMathLab to complete assignments?

MyMathLab will present you with a series of assignments for each Mini-Mod (think of a Mini-Mod or MM as a relatively small chapter).  These will include videos, homework assignments, quizzes, tests, and other materials to enable you to learn the course content.  Many assignments give you more than one chance to correctly answer a problem.  MyMathLab provides you with step-by-step assistance on how to solve problems and tells you how you did (as a percent) once you complete an assignment.

To proceed to the next assignment within a Mini-Mod, you will need to demonstrate mastery on the previous assignments within that Mini-Mod.  Different assignments have different set mastery levels.  Your instructor will work with you one-on-one or in small groups to help you master that content if are having trouble with it.

How do I show my work?

All of the work that you complete for MyMathLab must be neatly done either directly in your yellow notebook or on lined paper.  Any work shown on loose-leaf paper must be inserted in the appropriate place in your binder.

- Each set of exercises must have the assignment name labeled, problems numbered, and work written neatly.
- The solution to each problem must be written in pencil, be complete and show all steps.  To be complete, the original equation, expression, or inequality must be written.
- For multiple choice problems or one-word answer problems, you must list the correct answer letter or word.
- Any problem(s) or assignment(s) for which you received automatic credit must be identified with a checkmark designating to your instructor that you received automatic credit.
- Your work in your 3-ring binder, including your yellow notebook exercises, must be complete and checked by an instructor before you can get a signed green testing card and take the pretest or test for that MM.
How will I use my yellow notebook?

The exercises in your yellow notebook are tied to the exercises in the MyMathLab "media" assignments. There are two types of media assignments that you will encounter as you work through a Mini-Mod (MM).

- **MM 2 Media** - This is an overview of all of the material in MM 2.
  - **If you don't know this material**, stop watching this media assignment and begin working in MM 2 by skipping to the smaller MM 2 assignments which start with Media 2.1-2.3. Attempting the Pretest will be a waste of time for you as you need to learn the material by working through the MM assignments.
  - **If this is a review of material you already know**, complete this entire media assignment and the appropriate pages in your yellow notebook. Then, complete the Am I Pretest Ready for MM 2? assignment - this will help prepare you for the MM 2 Pretest. For the first 5 MMs in your course, you can only take a Pretest if you score an 80% or higher on the associated Am I Pretest Ready? assignment. If you pass the MM 2 Pretest with an 80% or higher, you can skip all remaining MM 2 assignments and begin working in MM 3. This is only a time-saver for students who know the material.

Each media assignment requires you to watch videos of an instructor demonstrating how to solve math problems on a particular subject. You can start and stop the videos as needed. As you watch the media assignments, the exercises the media instructor is demonstrating correspond to those in your yellow notebook. You are expected to work in your notebook along with the video instructor. Head-phones are available.

What must I do to succeed in this course?

- **Come to class prepared.** See the Required Materials section.
- **Attend every class and arrive on time.**
- **Spend a minimum of 2 hours working outside of the regular classroom setting for every hour in class.** Some assignments may require more time. If registered for:
  - 1 fall course or 1 spring course - work at least 6 hrs per week outside of class.
  - 2 fall courses or 2 spring courses - work at least 12 hrs per week outside of class.
  - 1 summer course - work at least 12 hrs per week outside of class.
- **Show all work, neatly written, for each problem directly in your notebook or on lined paper with the assignment name.** See the What is MyMathLab? and How Will I Use My Notebook? sections below.
- **Meet the Deadline Dates (D-Days), which are dates by which a set of Mini-Mods is due.**
- **Remember your instructor is there to help you. Ask for help.**
- **Take advantage of the free tutoring services provided by the College.** See the What if I need more help? section later in this syllabus.

My instructor expects me to:

- **Arrive on time with all of the required materials ready to learn.**
- **Take responsibility for my learning by getting help from the instructor and/or tutors when I need it.**
- **Avoid behaviors that distract others.**
- **Put my cell phone on silent before entering the classroom and not use it during class.**
- **Be respectful of my fellow classmates if I listen to music on the internet, by keeping the volume low so that it doesn't disturb others.**
- **Not listen to music when taking any pretest, test, or final exam.**
- **Get permission from the instructor first if I must leave the classroom during class.**
- **Behave in a respectful manner.**

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2 College policy prohibits young children from accompanying parents/guardians to class.
**Grading** - The numerical final course grade will be computed as follows:

<table>
<thead>
<tr>
<th>MML ICON</th>
<th>Category</th>
<th>% of final course grade</th>
<th>Assignment Type</th>
<th>Required Mastery grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Course Performance</td>
<td>10%</td>
<td>Performance</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>10%</td>
<td>MM Media, Section Media</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concept Checks &amp; Topics</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hwks</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reviews &amp; Cum Reviews</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Am I Pretest Ready?s *</td>
<td>80% / 95% #</td>
</tr>
<tr>
<td></td>
<td>Quiz *</td>
<td>10%</td>
<td>Pre-quizzes *</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quizzes *</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Test *</td>
<td>50%</td>
<td>Pretests &amp; Tests *</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Final Exam * ^ (cumulative)</td>
<td>20%</td>
<td>Final Exam - Parts 1 &amp; 2 *</td>
<td></td>
</tr>
</tbody>
</table>

* You may not receive help on these assignment types: Am I Pretest Ready?s, Pre-quizzes & Quizzes, Pretests & Tests, or the Final Exam.

# You must score an 80% or higher on an Am I Pretest Ready? assignment to take a Pretest for the first 5 MMs/MRvs. While it is not required for the remaining MMs, it is highly encouraged to increase the likelihood of passing the Pretest. Also, an 80% on an Am I Pretest Ready? assignment allows you to skip over the assignments for the current MM and begin working on the next MM before taking the current pretest. This is especially helpful on weekends and during breaks.

# A 95% on the Am I Pretest Ready? assignment for the last MM and an 80% on the Am I Pretest Ready? assignment for the current MM allows you to skip over the assignments for both the last MM and the current MM and begin working on the next MM before taking either the past or current pretest.

^ The final exam grade is not calculated into the MyMathLab Overall average. The average listed in MML after taking the final is not your course grade. Your course grade will be calculated and listed in Canvas. All MMs required for a particular course must be completed prior to taking the final exam for that course.

**Final Grades**

<table>
<thead>
<tr>
<th>Passing Grades:</th>
<th>Non-Passing Grades:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: 90 - 100%</td>
<td>D: Suitable Progress</td>
</tr>
<tr>
<td>B: 80 - 89.999%</td>
<td>F: Little or No Progress</td>
</tr>
<tr>
<td>C: 70 - 79.999%</td>
<td></td>
</tr>
</tbody>
</table>

If you do not complete this course within the semester, your final grade will be submitted as a non-passing grade, either a “D” or an “F”. However, you will be able to register for this course again next semester to complete the course. Chesapeake College requires a passing grade of A, B, or C in all developmental courses in order to meet the prerequisites for higher level math courses. Final course grades are not rounded. An 89.999% is a B not an A.

Chesapeake College has a policy limiting the number of times that a course can be repeated to two. This includes audits and withdrawals. You may enroll in the course a total of three times.

**Course Performance**

As a student in a PASS Math course, you are required to attend your scheduled class times.

- Attendance will be taken for each 75 minute class session and becomes part of your college record.
- Performance includes **actively working on task** during each class session and passing either the test or pretest for all MMs by the required D-Days (Deadline Days).
Performance:

100 pts  Every student begins the course with a Performance grade of 100 pts.

- 5 pts  Your Performance grade will be reduced by 5 pts for each 75 minute class session missed.

- 5 pts  Your Performance grade will be reduced by 5 pts if you do not pass either the pretest or test with an 80% or higher for each of the required MM's by the D-Day listed on the Course Calendar.

- # pts  Your Performance grade will be reduced by an additional number of percentage points if you are not on task during class time.
            (This includes: texting, Facebook, internet surfing, other course work, chatting with your friends, being tardy, leaving class early, etc.)

+ 5 pts  75 min of documented lab make-up time or 45 min of documented Project Mainstay Tutoring

+ 3 pts  45 min of documented lab make-up time  (75 min open labs are counted before 45 min open labs)

You can earn Performance points by attending extra open lab hours or a Project Mainstay Tutoring session and providing documentation to your instructor.

120 pts  Performance points cannot exceed 120 pts.  If your Performance grade is above 100 pts at the end of the semester, the points above 100 pts will act as extra credit towards your course grade.

≥ 80 pts  You must have a Performance grade of 80 pts or higher in order to take a pretest, test, or final exam.  A Performance grade of 80 pts or higher allows access to proctored test assignments.

< 80 pts  A Performance grade below 80 pts will block access to all proctored test assignments.

If your Performance grade falls below 80 pts, you will need to make-up the points by attending open lab hours.

If you are prevented from taking either a pretest or test due to a Performance grade under 80 points, you need to speak with your instructor.  They can explain how you can continue to test and make progress in the course while you work to bring your performance points up to an 80.

May 5, 2014  This is the last day to make up open lab hours.  If your Performance grade is below 80 pts by 9:15pm on this day, you will not be allowed to take the Final Exam and you will fail the course.  No make-up open lab hours during Final Exams.

What if I need more help on this course than I am able to get during class?

The Academic Support Center (http://info.chesapeake.edu/lrc/tutoring) in the Learning Resource Center (LRC 105) in Wye Mills and in the Multi-Service Center in Cambridge offer free drop-in math tutoring.

Project Mainstay offers free scheduled tutoring up to two hours per week to qualifying students.  You can even earn performance points for these tutoring sessions.  To qualify, students must be a first generation college student, be economically disadvantaged, have a physical disability, or have a learning disability.  More information will be provided in class.

Questions about learning or physical disabilities?  Please contact Ms. Judy Gordon in Student Services (ext. 5805).  Ms. Gordon can discuss the possibility of an accommodations plan with you to insure full participation and achievement of your educational goals.  Find out more at http://www.chesapeake.edu/students/disab.asp
What is the College’s ACADEMIC INSTRUCTION EMERGENCY MANAGEMENT PLAN?
In the event Chesapeake College needs to close for an extended period of time due to a flu pandemic, severe weather event, or other emergency situation, consideration will be given to the timing and duration of the closure as follows:

For a closure during the semester for up to one week, there will be an opportunity for you to make up work missed without significant alteration to the semester calendar.

For a closure extending beyond one week (or in situations where classes are cancelled on the same days/evenings over multiple weeks), the College may extend the length of the semester.

Depending on the timing of the closure, scheduled breaks, end of semester dates, and/or the processing of final grades might be impacted. Students can acquire information about closures on the College website or by calling 410-822-5400 or 410-228-4360. Chesapeake College courses held at off campus sites will follow the protocol of the host facility.

What is the College’s Academic Honesty Policy?
The Student Code of Conduct states: “If, based on substantial evidence, a student is deemed guilty of academic dishonesty, the College may initiate disciplinary action as follows:

- required to repeat the assignment or the examination
- given a failing grade for the assignment or the examination
- given a failing grade for the course
- suspended or dismissed from the College”

Any use of a cell phone or inappropriate calculator during a pretest or test will be seen as cheating and a grade of 0 will be recorded for that assignment. Repeated abuse of this policy will result in further disciplinary action.

In conclusion, a note from your instructor
I am here to assist you successfully complete this course. If you have any questions, please don’t hesitate to speak with me. Additional information will be provided to you in Canvas as announced on the first day of class.

Our very best wishes for success! The Math Department

Chesapeake College Outcomes for Developmental Math

Students will be able to:

**MAT 023 – Prealgebra**
- Apply the mathematical skills required in problem-solving related to prealgebra.
- Analyze mathematical models such as equations, formulas, shapes and figures and draw inferences from them.
- Communicate mathematical information symbolically and numerically using appropriate terminology.
- Evaluate mathematical information and relationships.

**MAT 031 – Elementary Algebra**
- Apply the mathematical skills required in problem-solving related to elementary algebra.
- Analyze mathematical models such as equations, formulas, graphs, tables, functions, shapes and figures and draw inferences from them.
- Communicate mathematical information symbolically, visually by graphing equations and functions, and numerically using appropriate terminology.
- Evaluate and/or interpret mathematical information, relationships, and concepts.

**MAT 032 – Intermediate Algebra**
- Apply the mathematical skills required in problem-solving related to intermediate algebra.
- Analyze mathematical models such as formulas, equations, functions & graphs and draw inferences from them.
- Communicate mathematical information conceptually, symbolically, visually by graphing equations and inequalities and numerically using appropriate terminology.
- Evaluate and/or interpret mathematical information, relationships, facts, and concepts.
MAT 023 Pre-Algebra

What is MAT 023?
MAT 023 is a problem-solving course that covers arithmetic operations on whole numbers, fractions, decimals, percentages, geometry, signed numbers, and simplifying expressions. It is approximately equal to one year of high school pre-algebra and it is the prerequisite for the next developmental course, MAT 031. The student learning outcomes for MAT 023 may be found on page 8 of this syllabus.

Why am I enrolled in this course?—The Big Picture.
Upon enrolling at Chesapeake College, you took the AccuPlacer test for which your score placed you into MAT 023. When you complete this course, you will take MAT 031, Elementary Algebra. Depending upon your major, you may need to complete MAT 032, Intermediate Algebra, before continuing on to a credit-level mathematics course of which at least one is required for graduation from Chesapeake College.

What mathematical skills will I have upon successful completion of MAT 023?
- Perform basic arithmetic operations with integers, fractions, and decimals
- Solve all types of fraction problems including applications
- Solve all types of decimals problems including order of operations
- Set up and solve ratio and proportion problems
- Convert fractions to/from decimals to/from percents
- Solve percent problems using percent equations and percent proportions
- Solve applications of percentage problems
- Set up and solve proportion problems
- Using a formula sheet, find the perimeter, area, and volume of various geometric figures
- Add, subtract, multiply, and divide real numbers without the use of a number line or calculator
- Simplifying and evaluating algebraic expressions

What do the MAT 023 Mini-Mods cover?
There are 12 Mini-Mods in this course, ranging from MM 1 through MM 14 omitting MMs 7 and 10. All Mini-Mods must be completed prior to taking the final exam.

<table>
<thead>
<tr>
<th>MM #</th>
<th>Content</th>
<th>MM #</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM 1AB</td>
<td>The Whole Numbers</td>
<td>MM 8</td>
<td>Introduction to Geometry</td>
</tr>
<tr>
<td>MM 2</td>
<td>Factors &amp; Fractions</td>
<td>MM 9</td>
<td>More on Geometry</td>
</tr>
<tr>
<td>MM 3</td>
<td>Least Common Multiple &amp; More on Fractions</td>
<td>MM 10</td>
<td>[Skipped in MAT 023]</td>
</tr>
<tr>
<td>MM 4</td>
<td>Mixed Numbers</td>
<td>MM 11</td>
<td>Real Numbers and Variables</td>
</tr>
<tr>
<td>MM 5</td>
<td>Operations with Decimals</td>
<td>MM 12</td>
<td>Adding &amp; Subtracting Real Numbers</td>
</tr>
<tr>
<td>MM 6</td>
<td>Ratios, Rates, &amp; Percents</td>
<td>MM 13</td>
<td>Multiplying &amp; Dividing Real Numbers</td>
</tr>
<tr>
<td>MMM-7</td>
<td>[Skipped in MAT 023]</td>
<td>MM 14</td>
<td>Variables, Expressions, &amp; Equations</td>
</tr>
</tbody>
</table>

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3 The College Catalog description of MAT 023: Problem solving using arithmetic skills. Arithmetic order of operations and operations with whole numbers, fractions, decimals, and signed numbers are reviewed as applied to problem solving. Emphasis is upon procedures, applications, and reasonableness of solutions.
**MAT 031 Elementary Algebra**

What is **MAT 031**?

**MAT 031** is an elementary algebra course that is approximately equivalent to the first year of high school algebra and is the first of two algebra courses taught at Chesapeake College in preparation for college level mathematics courses. Topics include a review of fractions, integers and rational numbers, solving equations, polynomials, factoring, systems of equations and graphing. The student learning outcomes for **MAT 031** may be found on page 8 of this syllabus.

Why am I enrolled in this course? — The Big Picture.

When you enrolled at Chesapeake College, you took a mathematics placement test. Your score on that test placed you in either **MAT 031** or its predecessor **MAT 023**. When you complete this course, depending upon your major, you may then need to complete **MAT 032**, Intermediate Algebra, before continuing on to a credit mathematics course. At least one credit-level mathematics course is required for graduation from Chesapeake College.

What mathematical skills will I have upon successful completion of **MAT 031**?

- Perform basic arithmetic operations with fractions and integers
- Solve linear equations and inequalities
- Graph linear equations
- Determine the slope and the equation of a line
- Solve systems of linear equations
- Apply rules of exponents
- Perform basic arithmetic operations on polynomials
- Factor polynomials
- Solve quadratic equations

What do the **MAT 031** Mini-Mods cover?

There are 12 Mini-Mods in this course (including 2 reviews or MRvs), ranging from a review on Fractions through MM 25 on More Factoring and Quadratic Equations. All MMs must be completed prior to taking the final exam.

<table>
<thead>
<tr>
<th>MM #</th>
<th>Content</th>
<th>MM #</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraction</td>
<td>Basic Operations on Fractions *</td>
<td>MM 20</td>
<td>Solving Systems of Linear Equations</td>
</tr>
<tr>
<td>Integer</td>
<td>Basic Operations on Integers *</td>
<td>MM 21</td>
<td>Intro. to Polynomials &amp; Exponent Rules</td>
</tr>
<tr>
<td>MM 15</td>
<td>Introduction to Solving Linear Equations</td>
<td>MM 22</td>
<td>Multiplying Polynomials</td>
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<tr>
<td>MM 16AB</td>
<td>Solving More Linear Equations &amp; Inequalities</td>
<td>MM 23</td>
<td>Dividing Polynomials &amp; More Exponent Rules</td>
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<tr>
<td>MM 17</td>
<td>Introduction to Graphing Linear Equations</td>
<td>MM 24AB</td>
<td>Factoring Polynomials</td>
</tr>
<tr>
<td>MM 18+5</td>
<td>Slope &amp; the Equation of a Line</td>
<td>MM 25</td>
<td>More Factoring &amp; Quadratic Equations</td>
</tr>
</tbody>
</table>

* As MRv Fraction & MRv Integer review Prealgebra concepts, only a four function calculator (no +/−) may be used.

The MRvs highlighted in gray will be skipped for those students completing **MAT 023** and beginning **MAT 031** in a single semester.

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4 The College Catalog description of **MAT 031**: An introduction to algebra. Topics included are properties of whole numbers, integers, and rational numbers, solving equations, polynomials, factoring, systems of equations and graphs.

5 Note that you will learn a small amount of the material in MM 19 as an extension to MM 18.
MAT 032 Intermediate Algebra

What is MAT 032?

MAT 032, Intermediate Algebra, is a continuation of elementary algebra. Topics include operations on rational expressions, roots and radicals, radical expressions, solving and graphing quadratic equations, quadratic inequalities, and functions. The student learning outcomes for MAT 032 may be found on page 8 of this syllabus.

Why am I enrolled in this course? — The Big Picture.

When you enrolled at Chesapeake College, you took a mathematics placement test. Your score on that test placed you in MAT 032 or one of its predecessors. When you complete this course, you will be prepared to register for a credit mathematics course, at least one of which is required for graduation from Chesapeake College.

What mathematical skills will I have upon successful completion of MAT 032?

- Perform basic arithmetic operations with integers and fractions
- Factor polynomials
- Simplify rational and radical expressions
- Perform basic operations on rational and radical expressions
- Simplify radical expressions and expressions containing rational exponents
- Solve rational, radical, and quadratic equations
- Graph quadratic equations
- Solve compound and quadratic inequalities
- Recognize and evaluate functions

What do the MAT 032 Mini-Mods cover?

There are 13 Mini-Mods in this course (including 4 reviews or MRvs and a graphing review), ranging from a Review on Fractions and Integers through MM 33 and MM 19 (MM 19 will be completed out of order). All MMs must be completed prior to taking the final exam.

<table>
<thead>
<tr>
<th>MM #</th>
<th>Content</th>
<th>MM #</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRv Frac &amp; Int</td>
<td>A Review of Fractions &amp; Integers *</td>
<td>MM 30</td>
<td>Operations of Radical Expressions</td>
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<tr>
<td>MRv 24AB</td>
<td>A Review of Factoring Polynomials #</td>
<td>Graphing</td>
<td>A Review of Graphing</td>
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<tr>
<td>MRv 25</td>
<td>A Review of More Factoring &amp; Quadratic Equations #</td>
<td>MM 31</td>
<td>Solving Quadratic Equations</td>
</tr>
<tr>
<td>MM 26</td>
<td>Introduction to Rational Expressions</td>
<td>MM 32</td>
<td>Graphing Quadratic Equations</td>
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<td>MM 27</td>
<td>Adding and Subtracting Rational Expressions</td>
<td>MM 33</td>
<td>Compound &amp; Quadratic Inequalities</td>
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<tr>
<td>MM 28AB</td>
<td>Complex Rational Expressions &amp; Rational Equations</td>
<td>MM 19 7</td>
<td>Introduction to Functions</td>
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<tr>
<td>MM 29</td>
<td>Roots &amp; Radicals</td>
<td>_____</td>
<td>-----------------------------</td>
</tr>
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</table>

* As MRv Frac & Int review Prealgebra concepts, only a four function calculator (no +/-) may be used.

# As MRvs 24A, 24B & 25 review elementary algebra concepts, only a four function calculator may be used.

The MRVs highlighted in gray will be skipped for those students completing MAT 031 and beginning MAT 032 in a single semester.

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6 The College Catalog description of MAT 032: A continuation of beginning algebra. Topics included are systems of equations and graphs, polynomials in several variables, fractional expressions and equations, radical expressions and equations, quadratic equations and inequalities, and exponential and logarithmic functions.

7 Note that MM 19 will be completed out of order.