# MAT*173 ONLINE COURSE SYLLABUS

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<tr>
<th>MAT</th>
<th>173</th>
<th>College Algebra with Technology</th>
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<tbody>
<tr>
<td>Department</td>
<td>Course No.</td>
<td>Course Title</td>
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<tr>
<td>Justice Baker</td>
<td>4</td>
<td>11/2014</td>
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</tbody>
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**Credit Hrs.**

<table>
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<tr>
<th>Faculty Member</th>
<th>Date</th>
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<tbody>
<tr>
<td>Justice Baker</td>
<td>11/2014</td>
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**Course prerequisites:**

Eligible for ENG*101 (or ENG*101E) and MAT*137 (or higher) with a grade of "C" or better OR eligible for ENG*101/ENG*101E and math placement.

**Scope of course:**

This course continues the algebra sequence. It is primarily intended for students who plan to continue on to Precalculus. Topics include operations with complex numbers; functions; numeric, algebraic, and graphic techniques as applied to the following functions: polynomial, rational, radical, piecewise, and absolute value; modeling and applications using the above functions; exponential expressions and equations; logarithmic expressions and equations; Optional: conic sections. A graphing calculator is required for this course.

**Textbooks and other required readings/computer software/materials/library reserve room:**

- Precalculus with Modeling and Visualization, 5e, by Gary Rockswold, Pearson, 2014. You may use either the physical textbook or the ebook that comes as part of your MyMathLab account.
- Graphing Calculator –TI 84/TI 83 plus preferred
- Graph Paper
- Online Material: [http://pearsonmylab.com](http://pearsonmylab.com) - This provides access to lot of study resources along with homework exercises and is called MyLab/Mastering or MyMathLab (MML). It requires a course ID and an Access Code to register (needs to be purchased).

**Office Location:** Wheaton Hall Room 310

**Office Hours:** Monday & Wednesday: 1:00 – 2:30pm
Tuesday & Thursday: 11:00 – 12:30pm

**e-mail:** [jbaker@mxcc.edu](mailto:jbaker@mxcc.edu) or through the Messages tool in Blackboard Learn

**General Expectations:** College Algebra can be a very challenging course when taken in a traditional classroom. Taking the course online can make it that much more difficult to stay on top of the material. It is crucial that you are doing work several times each week during this semester to be successful. Please do not wait until the weekend that the assignments are due to complete them. If we were to meet in a classroom, you would be spending about 4 hours in class, and a minimum of another 6-9 hours outside of class doing work. Please keep that in mind to give yourself a guideline as to how many hours you will need to dedicate to this course.

**Course Details:**

**Weekly Modules:** Each week, a new weekly module will become available. These modules will contain:
- Objectives for the week
- Reading assignment
- Suggested review problems from the textbook/ebook
- Details about and links to the week’s assignments

You should go through the content in each module from top to bottom early on in the week. Modules will become available each Monday at 12:00 am starting on Monday, August 25th.

**Homework:** Each week you will be assigned a homework assignment that you are to complete using My Lab Mastering/MyMathLab. You can get to our course in MyMathLab by going to the MyMathLab tab in the Course Menu in Blackboard Learn or by following the links in the weekly modules. There will be 15 total homework assignments during the semester.

With your textbook, you should have purchased a MyMathLab Access Kit. In that kit is an access code that you will need in order to register at My Lab/Mastering. You can also purchase an access
code directly from the website with a credit card. You should set up your account in MyMathLab and link it to Blackboard Learn by clicking on any of the links in the MyMathLab tab as soon as possible.

You can work on the homework as many times as you like before the due date. You will get three attempts at each question before MyMathLab marks that question incorrect. When that happens, you may choose “Similar Problem” and you will be given a new problem to try. Check out the help features that are available to you during homework assignments. These can include step-by-step instructions (Help Me Solve This…), completed examples to review, and videos. Be sure to use these features to help you with the material on the assignments.

All homework assignments will become available at midnight on Monday at the start of a week and are due the next Sunday by 11:59pm. For example, HW #1 will become available at midnight on Monday, August 25th and is due by 11:59pm on Sunday, August 31st. It is the expectation that you work on the material during the week/weekend, complete the homework by the end of the week and then move on to the next week’s material.

Before attempting MyMathLab homework, you will want to go through the weekly module in Blackboard Learn, read the assigned sections from text and try the recommended problems at the end of each section (given in each weekly module). There are answers to the odd exercises in the back of the text so that you can check your work before completing your MyMathLab homework. You can also access these review problems through the ebook on MyMathLab. Like the homework assignments, these review problems have the same help features listed above (like the Help Me Solve This… tool).

Because this class is online and you are doing the work independently, it is critical that you stay on top of the material. Please make sure you are submitting on time!

**NO LATE HOMEWORK WILL BE ACCEPTED**

NOTE: MyMathLab has many great features to help with the material. Once you are registered and logged onto MyMathLab, be sure to look at the task bar on the left to see what else it has to offer. There are chapter notes, additional exercises, power point slides, videos with an instructor working through problems, and sample tests/quizzes. Also, MyMathLab offers a Study Plan to show you the areas you need to work on. Every time you complete an assignment, the study plan is updated and you can go in and try more examples from that material. Please check this stuff out so you know where to go if you start having difficulty with the material.

**Quizzes/Tests:** Your quizzes, and tests are also taken in MyMathLab. Both are timed, so you will have to complete them in one sitting. Once you open the quiz/exam, the timer will start.

The reason tests are timed is to make sure that everyone has been fully prepared and mastered the material BEFORE taking the test. If you find that you are running out of time on these assessments, it is most likely because you have not practiced enough. If you are spending a good deal of time looking through your book/notes while you are taking a test, you will almost definitely run out of time.

A short description of each exam, including the amount of time you have to complete it will be in your weekly module in Blackboard Learn. All tests/quizzes must be completed by midnight on the due date. See the weekly modules in Blackboard Learn for specific dates.

Each week you will have at least a quiz, test, or discussion due, as well as your weekly homework in MyMathLab. The expectation is that you are working on the homework all week and you take the test once you have completed that and feel comfortable with the material. Tests/Quizzes will be available the Monday before the due date (just like the homework assignments).

You will able to view your test grades as soon as you have submitted your answers, but you can only review your answers once the due date has passed. **NO LATE EXAMS WILL BE ACCEPTED!**
NOTE: MyMathLab will give partial credit if you get one part of a question correct but not another part. However, since it is a computer grading these tests/quizzes, it will not award you partial credit if you have an answer wrong due to rounding, notation or some other very minor error. Once each due date passes, please review your test/quiz in MyMathLab. You can email me (using the Messages tool in the Course Menu) if you that feel there are some questions that you deserve partial credit on, along with your work. I can adjust the grade manually if I find you deserve more credit than you were given.

**Final Exam:** You will be required take your final exam ON CAMPUS during one of two provided times. The format of the exam will be exactly the same as every other exam, and taken on MyMathLab. The two options for times will be provided to you during the first month of class so that you can plan ahead.

**YOU MUST EARN AT LEAST A 60% ON THE FINAL EXAM IN ORDER TO PASS THE COURSE. Failure to earn this grade will result in an F in the course, regardless of your calculated average.**

**Discussions:** You will have weekly discussions throughout semester, the first one being due by 11:59 on Sunday, August 31st. Details for the discussions can be found in the weekly modules. Some of these discussions will be open ended questions like “Tell the class one thing that you are having difficulty with this week”, and some will be problems that relate to the material we are covering. Many discussions will require you to complete an initial post and then also reply to another student’s post. For some discussions you will be able to read other responses, and some you will be replying directly to me. These discussions are graded and must be completed by the due dates indicated in the weekly modules. The actual discussions can be accessed through the Discussions tab in the course menu in Blackboard Learn (NOT MyMathLab).

**NO LATE DISCUSSION POSTS WILL BE ACCEPTED!**

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**Online Behavior Guidelines:**

As with an on-ground class, there are certain expectations about how you behave in an online course. At all times, you must be respectful of the other students in the class and the instructor. In an online format, where most interactions between individuals are in writing, it is very easy to be misunderstood. Therefore, please abide by these guidelines when communicating with others (in messages or discussion forums):

- Keep all messages positive and constructive
- Do not post comments/discussions in all caps (it can come off as if you’re shouting)
- Name calling of any kind will not be tolerated

A good rule of thumb to remember is: if it isn’t appropriate to say in a class, you shouldn’t write it online.

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**Evaluation**

Your letter grade is based on your “grade on 100” as follows:

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<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100</td>
</tr>
<tr>
<td>B</td>
<td>80-89</td>
</tr>
<tr>
<td>C</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
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Your overall average will be determined according to the following breakdown:

- Homework Average: 15%
- Quiz Average: 10%
- Discussions: 10%
- Tests (3 total): 15% each
- Final Exam (Cumulative): 20%

**NOTE:** You need a C or better to move on to a math course with a MAT*173 prerequisite.

**YOU MUST EARN AT LEAST A 60% ON THE FINAL EXAM IN ORDER TO PASS THE COURSE. Failure to earn this grade will result in an F in the course, regardless of your calculated average.**
IMPORTANT COLLEGE POLICIES!! PLEASE READ CAREFULLY!

Math Placement Tests: The purpose of the Math Placement Exam is to assess a student’s background and place him/her in an appropriate level of mathematics so as to increase the likelihood of a student’s success. If a student believes that he/she has been misplaced in a math class, the student is responsible for speaking with his/her math teacher during the first week of class. If, after reassessing the placement, the math teacher believes that the student should be reassigned to another math class, the student must complete the course change process before the second week of class.

For information about the college's policies and procedures regarding academic honesty, accessibility/disability services, attendance, audio-recording in the classroom, grade appeals, plagiarism, religious accommodations, weather and emergency closings, and more, please go to the following website:  www.mxcc.edu/catalog/syllabus-policies/ or scan the QR code with your smart phone. Also, please become familiar with the policies regarding nondiscrimination, sexual misconduct, and general student conduct at the following website: www.mxcc.edu/nondiscrimination/.

NON-DISCRIMINATION STATEMENT

Middlesex Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression or genetic information in its programs and activities. In addition, the College does not discriminate in employment on the additional basis of veteran status or criminal record.

The following people have been designated to handle inquiries or complaints regarding non-discrimination policies and practices:

- **Primary Title IX Coordinator**
  Dr. Adrienne Maslin
  Dean of Students/Title IX and Section 504/ADA Coordinator
  amaslin@mxcc.edu; 860-343-5759; Founders Hall Room 123

- **Secondary Title IX Coordinator**
  Ms. Mary Lou Phillips
  Director of Human Resources, Middlesex Community College
  mphillips@mxcc.edu; 860-343-5751; Founders Hall Room 115

- **Secondary Title IX Coordinator**
  Ms. Queen Fordham
  Coordinator of the Meriden Center Welcome Desk
  qfordham@mxcc.edu; 203-608-3011
<table>
<thead>
<tr>
<th>Unit #</th>
<th>Instructional Unit</th>
<th>Specific Objectives of Unit</th>
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| 1     | Functions and Inequalities   | • Define function, domain, and range.  
• Identify intervals on which a function’s graph increases and decreases.  
• Determine the average rate of change for non-linear functions.  
• Calculate the difference quotient for non-linear functions  
• Use linear regression to model data with technology  
• Evaluate piecewise defined functions.  
• Produce graphs of absolute value and piecewise-defined functions both by hand and with technology.  
• Solve absolute value inequalities both by hand and with technology.  
• Produce graphs involving shifting, reflecting, stretching, and shrinking of known graphs.  
• Combine functions by composition.  
• Define inverse functions and find the inverse of elementary functions. |
| 2     | Polynomial, Rational and Radical Functions | • Demonstrate understanding of the concept of complex numbers.  
• Perform operations with complex numbers.  
• Factor polynomial expressions.  
• Factor expressions that contain negative and/or rational exponents.  
• Use factoring to solve polynomial equations.  
• Evaluate, simplify, and perform operations on traditional rational functions or expressions.  
• Solve traditional rational equations algebraically.  
• Evaluate, simplify, and perform operations on traditional radical functions or expressions.  
• Solve traditional radical equations algebraically. |
| 3     | Additional Non-linear Concepts | • Graph quadratic, polynomial, rational, and radical functions both by hand and with technology.  
• Divide polynomials using both synthetic and long division.  
• Find real and complex zeros for polynomial functions using the: leading coefficient test, remainder theorem, factor theorem, rational root test and technology.  
• Solve polynomial and rational inequalities both by hand and with technology.  
• Determine the domain and range for rational functions.  
• Find equations of vertical, horizontal, and oblique asymptotes.  
• Determine domain and range for radical functions.  
• Apply polynomial, rational, radical, and piecewise-defined functions as mathematical models.  
• Use quadratic, polynomial, and power regression to model data with technology. |
| 4     | Exponential and Logarithmic Functions | • Simplify exponential expressions.  
• Solve exponential equations in one variable algebraically.  
• Demonstrate understanding of the number e.  
• Demonstrate understanding of the concept of logarithm.  
• Rewrite logarithmic expressions in exponential form, and vice versa.  
• Explain the difference between common and natural logarithms.  
• Apply the properties of logarithms to simplify logarithmic expressions.  
• Solve logarithmic equations in one variable.  
• Graph exponential and logarithmic equations in two variables both by hand and with technology.  
• Apply exponential and logarithmic functions as mathematical models.  
• Use exponential, logarithmic and logistic regression to model data with technology. |