

COURSE SYLLABUS-Fall 2019

**** Please read the following carefully, as you are responsible for its content!****

**MAT* 173 College Algebra Online with Campus Requirement (CRN #
3034)**

Department	Course No.	Course Title
4	4	
Credit Hrs.	# lecture hrs./week	

Prepared by	Dr. Joseph Murfin	August 2019
	Faculty Member	Date

Course prerequisites: **Eligible for either ENG*101E or ENG*101 and either MAT*137E or MAT*137 with a grade of "C" or better OR eligible for either ENG*101E or ENG*101 and Math placement.**

Course Location (building/room number): **Online**

Meeting time (days/hours): **Online with On-Campus Requirement (All Assignments done online except Final Exam)**

Final Exam Date/Time: Tuesday, December 10th 11:00AM-1:30PM; Wheaton Hall, Room 306

Description 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 materials:

- ***Precalculus*, by Jay Abramson; Published by OpenStax**
ISBN: 9781938168345
You may either use the free Online Version (Access online at <https://openstax.org/details/books/prec calculus>) or purchase a hard copy from the bookstore (optional)
- **MyOpenMath.com Account (Free)**
Course ID: 55995 (leave the Enrollment Key blank)
- **Graphing Calculator (TI 83 or TI 84 only)**
-Available for free check out from the library or for rent from the bookstore
-No other graphing calculators will be allowed on final exam.

Office Location	Wheaton Hall, Room 310	Office Hours	Tuesday/Thursday (Middletown) 12:45PM-1:45PM Monday/Wednesday (Platt) 3:00PM-3:30PM Or by Appointment
Office Telephone:	860-343-5744	Office e-mail:	jmurfin@mxcc.commnet.edu

Blackboard Learn: The course is set up using Blackboard Learn (Bb). In Bb you will read brief summaries on your weekly topics and see announcements from the instructor. However, all assignments will be completed on MyOpenMath

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 **EVERY DAY** this semester to be successful in the course. Do not wait until the day the assignments are due to complete them. If we were to meet in a classroom, **you would be spending about 4 hours per week in class, and a minimum of another 4-8 hours outside of class doing work each week.** Please keep that in mind to give yourself a guideline as to how many hours you will need to dedicate to this course each week and each day.

I will provide online instructional videos for you to use throughout the course. These, along with the text will be your primary learning guides throughout the semester. I am also available to answer questions and help in any way that I can. It is imperative that you set aside time each day to teach yourself the material, practice, and seek help from the instructor.

Student Email Accounts: All Connecticut Community College students now have an official email address (prefix@mail.ct.edu) to which all college-based communications will be sent. You are expected to check this email account frequently as this will serve as the primary method of contact between instructor and students. For more information on accessing your college email account, please visit <http://mxcc.edu/student-email>.

Video Assignments: Prior to completing homework assignments, you will complete Video Assignments on MyOpenMath. You will watch short videos and then complete math problems similar to the problems worked in the videos. These will serve as your initial lesson for each section. After completing the Video Assignments, you may move on to the corresponding homework section to get more practice.

Homework: Each week you will be assigned homework assignment(s) that you are to complete using MyOpenMath (MOM). These are designed to be worked on over the course of several days. Do not try to complete them each in one day, as they may take several hours. You can attempt the homework problems as many times as you like before the due date. **You will get three attempts at each question before MyOpenMath marks that question incorrect. When that happens, you may choose a “Similar Problem” and you will be given a new problem to try.** It is the expectation that you work on the material during the week/weekend, complete the homework by the due date and then move on to the proceeding material.

Online Quizzes/Exams: Your quizzes and exams are also taken in MyOpenMath. Exams/Quizzes are timed, so you will have to complete them in one sitting. Once you open the assessment, the timer will start. The reason these are timed is to make sure that everyone has been fully prepared and mastered the material BEFORE taking the quiz/exam. If you find that you are running out of time on these assessments, it is most likely because you have not practiced enough. A short description of each assessment, including the amount of time you have to complete, will be listed on MyOpenMath. See the tentative calendar for specific dates. The expectation is that you are working on the homework for several days and you take the quiz/test once you have completed that and feel comfortable with the material. Exams/Quizzes will be available approximately one week before the due date. You will be 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. Please follow the calendar so you do not miss a due date.. **IMPORTANT! NO LATE EXAMS /QUIZZES WILL BE ACCEPTED EXCEPT IN THE MOST EXTREME CIRCUMSTANCES!**

Discussions: You will have weekly discussions throughout semester. These will be completed on MyOpenMath. 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.

Final Exam: You will be required take your final exam **on campus** during the designated date during finals week. Our final exam will be given on the date listed on the front of this syllabus. If you are absolutely unable to take the exam at that time/date, please contact me so that another time can be arranged during finals week. The format of the exam will be the same as every other exam and taken on MyOpenMath. The exam will be cumulative, and a set of review questions will be provided in MOM.

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

Evaluation :

Homework Average:	15%
Video Assignments Average	5%
Quiz Average	15%
Unit Exams Average (3 exams)	30%
Discussions	10%
Final Exam (In-Person/Cumulative):	25%

Grading:

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

MORE INFORMATION

Getting Help: The College offers free tutoring in the Academic Success Center. Please try to take advantage of this if you are having any difficulty with the material. I will also be available to meet with you by appointment. You may always email me with questions as well. It is critical that you address problems immediately with a math course. See <https://mxcc.edu/asc/> for schedules. You may also come see me during office hours (above) or contact me to set up a specific time to meet.

Communication with me: Please contact me through email. Please allow 24 hours for me to get back to you once you have emailed me if it is during the week. I may periodically check email over the weekend, but please do not expect a response until the following Monday.

If you have a specific question on a homework problem, you can click “message my instructor” in MyOpenMath. This will send me a link to the problem and is preferably to emailing about a specific problem.

Course Schedule: A tentative (subject to change) course schedule for the class will be given out at the beginning of the course. I will also use the MyOpenMath course calendar to show due dates for homework, quizzes, and exams. Ultimately, the dates on the MyOpenMath calendar will reflect the most up-to-date due dates for the course, so make sure to check it regularly.

NOTE: The instructor reserves the right to make changes to the above syllabus as necessary.

IMPORTANT COLLEGE POLICIES!! PLEASE READ CAREFULLY!

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: <https://mxcc.edu/catalog/academic-policies/>. 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

Ricardo Barrett, Counselor, Career Development & Counseling Center
rbarrett@mxcc.edu; 860-343-5823; Founders Hall Room 121

Secondary Title IX Coordinator

Anastasia Pych, Director of Human Resources
apych@mxcc.edu; 860-343-5751; Founders Hall Room 115

MAT 173 Online Tentative Due Dates(Subject to Change)
All Assignments Due at 11:59pm and are done on MyOpenMath

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug 25	26	27 Classes Begin	28	29 Homework 1.1: Functions and Function Notation Video Assignment 1.1	30	31
Sep 1	2 Labor Day- College Closed	3 Video Assignment 1.2 Homework 1.2: Domain and Range	4	5 Video Assignment 1.3 Homework 1.3: Rates of Change and Behavior of Graphs	6	7
8	9 Video Assignment 1.4 Homework 1.4: Composition of Functions Last Day to Add/Drop; Last Day for 50% Tuition Refund	10 Quiz 1	11 Discussion 1	12 Homework 1.5: Transformation of Functions Video Assignment 1.5	13	14
15	16 Video Assignment 1.6 Homework 1.6: Absolute Value Functions	17	18 Discussion 2	19 Video Assignment 1.7 Homework 1.7: Inverse Functions	20	21
22	23 Video Assignment 2.1 Homework 2.1: Linear Functions	24 Quiz 2	25 Discussion 3	26 Video Assignment 2.2 Homework 2.2: Graphs of Linear Functions	27	28
29	30 Video Assignment 2.3 Homework 2.3: Modeling with Linear Functions	Oct 1 Quiz 3	2 Discussion 4	3 Video Assignment 2.4 Homework 2.4: Fitting Linear Models to Data	4 Exam 1	5
6	7 Video Assignment 3.1 Homework 3.1: Complex Numbers	8	9 Discussion 5	10 Video Assignment 3.2 Homework 3.2: Quadratic Functions	11	12
13	14 Video Assignment 3.3 Homework 3.3: Power Functions and Polynomial Functions	15 Quiz 4	16 Discussion 6	17 Video Assignment 3.4 Homework 3.4: Graphs of Polynomial Functions	18	19
20	21 Video Assignment 3.5 3.5: Dividing Polynomials	22 Reading Day-No Classes	23 Discussion 7	24 Video Assignment 3.6 Homework 3.6: Zeros of Polynomials	25 Exam 2	26
27	28 Video Assignment 3.7 Homework 3.7: Rational Functions	29 Quiz 5	30 Discussion 8	31 Video Assignment 3.8 Homework 3.8: Inverses and Radical Functions	Nov 1	2
3	4 Video Assignment 3.10 Homework 3.10: Polynomial Inequalities	5	6 Discussion 9	7 Video Assignment 3.11 Homework 3.11 Rational Inequalities	8	9

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Nov 10	11 Video Assignment 4.1 Homework 4.1: Exponential Functions Last Day to Withdraw from Class	12 Quiz 6	13 Discussion 10	14 Video Assignment 4.2 Homework 4.2: Graphs of Exponential Functions	15 Exam 3	16
17	18 Video Assignment 4.3 Homework 4.3: Logarithmic Functions	19	20 Discussion 11	21 Video Assignment 4.4 Homework 4.4: Graphs of Logarithmic Functions	22	23
24	25 Video Assignment 4.5 Homework 4.5: Logarithmic Properties	26 Quiz 7	27 Thanksgiving Recess - No Classes	28 Thanksgiving Recess - No Classes	29 Thanksgiving Recess - No Classes	30 Thanksgiving Recess - No Classes
Dec 1 Thanksgiving Recess - No Classes	2	3 Video Assignment 4.6 Homework 4.6: Exponential and Logarithmic Equations	4 Discussion 12	5 Video Assignment 4.7 Homework 4.7: Exponential and Logarithmic Models	6 Quiz 8	7 Last Day of Classes
8	9	10 Final Exam In-Person: Wheaton Hall, Room 306 11:00AM-1:30PM	11	12	13	14

COURSE OUTLINE

MAT*	173	College Algebra			4
Dept. Abbr.	Course No.	Course Title			Credits
Prepared by	Math				Jan 2013
	Department	Faculty	Program Coordinator	Division Chairperson	Date

Course Description

This course continues the algebra sequence. 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; absolute value, quadratic, and rational inequalities; exponential expressions and equations; logarithmic expressions and equations. There will be an emphasis on modeling and applications for all topics. Optional: conic sections, systems of non-linear equations. A graphing calculator is required for this course.

Prerequisite: Eligible for ENG*101 and MAT*137 (or higher) with a grade of “C” or better OR eligible for ENG*101 and math placement.

General Objectives of the Course

Students in this course will:

- Define and represent different functions numerically, verbally, symbolically and graphically
- Understand and recognize the characteristics of key functions and their interrelations by examining patterns among the functions and their corresponding graphs by way of inductive reasoning
- Identify, interpret and model various types of quantitative relationships within applications
- Use technology to explore and draw reasonable conclusions from graph, tables and equations
- Provide clear, logical and organized explanations through verbal and written responses

General Education Competencies

Students in this course will:

- Quantitative Reasoning (D)
 - (1) Represent mathematical and quantitative information symbolically, graphically, numerically, and verbally.
 - (2) Apply quantitative methods to investigate routine and novel problems. This includes calculations, procedures, mathematical and /or statistical modeling, prediction, and evaluation.
 - (3) Interpret mathematical and quantitative information and draw logical inferences from Representations such as formulas, equations, graphs, tables and schematics
 - (4) Evaluate the results obtained from quantitative methods for accuracy and/or reasonableness.
- Critical Analysis and Logical Thinking (E)
 - (2) Formulating arguments: Formulates good arguments, including a significant focus on inductive reasoning.
 - (3) Analysis: Break subject matter into components and identify their interactions to ascertain the defining features of the work and their contributions to the whole.
- Written Communication (E)
 - (3) Craft Logical Arguments
 - Generate a controlling idea or thesis

- Provide clear and logical evidence, support, or illustration for their assertions
- Choose appropriate and effective organizing methods, employing effective transitions and signposts.

Unit No	Instructional Unit	Specific Objectives of Instructional Unit (The specific objectives reflect the behavioral outcomes, which include what the student will be able to do at the completion of the unit. Evaluation is then to be based on the student's accomplishment of these objectives. Assume that each statement is prefixed with "The student will be able to".)
1	Complex Numbers	<ul style="list-style-type: none"> ● Demonstrate understanding of the concept of complex numbers. ● Perform operations with complex numbers.
2	Functions and Inequalities	<ul style="list-style-type: none"> ● Define function, domain, range. ● Evaluate and graph piecewise defined functions. ● Combine functions by composition. ● Define inverse functions and find the inverse of elementary functions. ● Produce graphs of power, quadratic, and absolute value functions both by hand and with technology. ● Produce graphs involving shifting, reflecting, stretching, and shrinking of known graphs. ● Solve absolute value inequalities. ● Solve quadratic and rational inequalities. ● Identify intervals on which a function's graph increases and decreases.
3	Additional Function Concepts	<ul style="list-style-type: none"> ● Graph polynomial, rational, radical, and piecewise-defined functions both by hand and with technology. ● Polynomial functions: find real and complex zeros, apply the leading coefficient test, remainder theorem, factor theorem, and rational root test. ● Rational functions and their graphs: determine the domain and range; find zeros; find equations of vertical, horizontal, and oblique asymptotes. ● Radical functions and their graphs: determine domain and range; find zeros. ● Apply polynomial, rational, radical, and piecewise-defined functions as mathematical models.
4	Exponential expressions and equations	<ul style="list-style-type: none"> ● Simplify exponential expressions. ● Solve basic exponential equations in one variable. ● Demonstrate understanding of the number e. ● Graph exponential equations in two variables.
5	Logarithmic expressions and equations	<ul style="list-style-type: none"> ● 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 basic logarithmic equations in one variable. ● Graph logarithmic equations in two variables.

Blackboard Learn

Blackboard Learn (BB) will be used in this class. If you have not used this before you can follow the directions below on how to access this resource:

Access Blackboard Learn

1. Open a web browser.
2. Go to **my.commnet.edu**.
3. Enter your **NetID** and **password**, click Login.

NetID: BannerID@student.commnet.edu,

Do not know your NetID? Visit this site to find out:

<https://www.commnet.edu/netid/lookupnetid.asp>

Password: The same password to log on to a campus computer at any of 12 Connecticut community colleges.

If you have never logged on to a campus computer, the initial password is a combination of your first 3 letters of birth month (capitalize the first letter), & (shift+7), and last four digit of your social security number.

For example, if you are born in April and the last four digits of your social security number are 4575, then your initial password is Apr&4575 (case sensitive).

After you logon with the initial password, you will be prompted to change to a new password. The new password **MUST** have 8 or more characters and satisfy 3 of the 4 rules as follows: Upper case, Lower case, Numbers, and Special character (Example: Flower2010).

4. Access Blackboard

Once you are in myCommNet, click **Blackboard** icon at upper right. Click on your **course name**. To go to another course, click **My Blackboard** (upper right) and click on the course name (MAT*173 for this course).

For technical assistance with logging on and use of Blackboard Learn, visit

www.mxcc.commnet.edu/distance