MAT 173 Course Syllabus
Spring 2014 Online w/Campus Requirement

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

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***Course Title*:** College Algebra with Technology, CRN 1268

***Pre-requisites*:** *Eligible for ENG*101 and MAT *137 with a grade of "C" or better OR eligible for ENG*101 and math placement.*

***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; exponential expressions and equations; logarithmic expressions and equations; conic sections. Optional: Systems of nonlinear equations. A graphing calculator is required for this course.

***Required Materials*:**

- *College Algebra 5e* by Robert Blitzer, bundled with MyMathLab Access Kit
  OR
  Purchase access to MyMathLab from the bookstore/online and use the available e-book.

- *You will also need a TI 83 of 84 Graphing Calculator*****

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 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 5-6 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.

Blackboard Learn: The entire course is set up using Blackboard Learn. I am often going to abbreviate this to BB. In BB you will find links to complete your homework and assessments, read brief summaries on your weekly topics, follow the calendar, contact me and post discussions. There are also links for help on BB. It is your responsibility to be logging on to BB and checking for announcements and following along with the course calendar. There is a hotline available for BB help 24/7. The number for this is 866 940 1928.

***Communication with me*:** Please email me through Blackboard Messages only. The only time you should need to use my email is if Blackboard is down. To email me through Blackboard, go to Messages on the navigation bar on the left and you will be able to find my name to send me a message. Please allow 24 hours for me to get back to you once you have emailed me.

Calendar: You have two calendars to follow to see the exact topics and assignments we will cover for each week of the semester, along with every due date. There is a calendar that you can download and print out under Syllabus and Calendar of Topics on Blackboard. This calendar has each week outlined with the topics from the text you are to cover, along with the assignments that are due that week. There is also a detailed calendar on BB. To access that calendar go to CALENDAR on the navigation bar on the left. This calendar also shows all your due dates, along with the date that each assignment is available. Click on each day to see the full posting for each day, including sections covered for tests/quizzes. Please make sure you are looking at this calendar frequently so you do not miss important due dates.

Weekly Notes: At the beginning of each week, a brief summary of the week's topics and assignments will be posted for you to read. These weekly postings will be under Weekly Notes and Materials on the task bar in Blackboard. Please be sure to start your week off by reading these weekly postings. I will be reminding you of upcoming due dates in these postings so it is a great way to keep track of what's due in each upcoming week.

Homework: Each week you will be assigned a homework assignment that you are to complete using My Lab Mastering/MyMathLab, abbreviated MML. You get to MML by using the link on Blackboard. **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 with My Lab/Mastering.** You can also purchase an access code directly from the website with a credit card. You will have to register using your access code ASAP to start completing your assignments.

Once you have registered for the first time in MML, you can either access the course through BB, or log in directly to MML by going to www.pearsonmylab.com . Both links will take you to the same login page

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 MML marks that question incorrect. When that happens, you may choose "Similar Problem" and you will be given a new problem to try.** All homework assignments are due at the end of the week the topic is covered. For example, MML HW #1 is due Sunday Jan 26. This assignment is on the topics covered the week of Jan 22. 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. **All the homework assignments are available in MML as of the first day of classes, so you can work ahead if you choose to.** Before attempting MML homework, you will want to read the assigned sections from text and try the exercises at the end of each section. 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. 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!

***MyLab Mastering has many great features to help with the material. Once you are registered and logged onto MSL, 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,vidoes with an instructor working through problems, and sample tests/quizzes. Also, My Lab/Mastering 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. Exams 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 amount of time you have to complete will be in your weekly notes and also in the calendar. All tests/quizzes must be completed by midnight on the due date. See the calendar in BB for specific dates. Each week you will have at least a quiz or test due, as well as your discussion and weekly homework in MML. 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. Those dates are also on your BB calendar. 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. Please follow the calendars so you do not miss a due date. NO LATE EXAMS WILL BE ACCEPTED!

****Note about partial credit—My Lab/Mastering 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, or some other very minor error. Once each due date passes, please review your test/quiz in MML. You can email me 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.

Mini-Projects: You will have 3 mini-projects to complete throughout the semester. The description and guidelines for these projects will be posted approximately two weeks before they are due. The due dates can be found in both calendar and course outline in BB.

Final Exam: You will be required take your final exam on campus during one of the two provided times. The format of the exam will be exactly the same as every other exam, and taken on MML. 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 a 60% will result in an F for the course, regardless of your calculated average.

Discussions: You will have weekly discussions throughout semester, the first one being due on Sunday Jan 26. The due dates are on your calendar. Not all of the discussions will be mandatory. You will see if the discussion is OPTIONAL or MANDATORY when you read the description. Go to DISCUSSIONS on the navigation bar in BB to get full description and to post your response to the discussion. 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. For some discussions you will be able to read other responses, and some you will be replying directly to me.

***Use of the Calculator*:** We will use the graphing calculator for almost every topic we cover. It is extremely important that you get comfortable using the calculator from the very beginning of

class. The best calculator for you to have is the TI-83 or 84. I will put step-by-step instructions in the weekly notes each week for using the calculator. I will also provide some videos to help you get comfortable with graphing on the calculator.

***Grading*:** Your final grade will be comprised of the following:

Tests/Final Exam	50%
Homework	20%
Quizzes	10%
Project (3)	15%
Discussions	5%

****Your discussion grades can be found under MY GRADES in Blackboard. The rest of your grades will be in MyMathLab****

Grading Scale: The following is the grading scale for MxCC College:

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

Tutoring: MxCC offers **FREE TUTORING** on campus (Chapman Hall 711), at the Meriden Center, and online (etutoring.org). For more information, visit the College Learning Center Website (click "College Learning Center" on the www.mxcc.commnet.edu homepage) or call (860) 343-5770. Take advantage of these services and start to excel in your classes!

***Withdrawal*:** You may withdraw from this class any time before the end of the 11th week of the semester. A completed and signed withdrawal form must be on file in the Records Office by the deadline in order to receive a "W" on your transcript. If you fail to complete this process on time, you will receive a letter grade at the end of the semester, which will include zeroes for any work not submitted. Course withdrawals may affect financial aid and veteran's benefits, so please make this decision carefully, and with the help of your advisor. Please see the Academic Calendar and the College Catalog for specific dates and procedures regarding the withdrawal process.

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. The "prefix" is the first letter of your first name, followed by first 4 letters of your last name, followed by a 4-digit number (e.g., jsmit1234@mail.ct.edu for John Smith). If your last name contains fewer than four characters; the "prefix" will include all letters of your last name (e.g., jdoe1234@mail.ct.edu for John Doe). You access Office 365 at http://portal.microsoftonline.com and log in with your CCC NetID username and password. For more details, please see http://www.ct.edu/365#faq.

Please check my email communications using college-provided student email accounts.

***ADA accommodations*:** Students with physical or learning disabilities who may require accommodations are encouraged to contact the Counseling Office. After disclosing of the nature of the disability, students are urged to discuss their needs with individual instructors. This should be done at the beginning of each semester. Instructors, in conjunction with appropriate college officials, will provide assistance and/or accommodations only to those students who have completed this process.

***Academic ethics and classroom behavior*:** At Middlesex Community College we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Trustees; Policy Manual. This policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, and other proscribed activities. Plagiarism is defined as "the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally."

Class Cancellation Policy: *In the event of inclement weather either before the start of a day when classes are in session or during the school day, you may check for information on delayed openings, college closings, class cancellations, etc by listening to the radio and television stations listed below. Additionally, a message will be posted on the MxCC website at www.mxcc.commnet.edu and an announcement made on the college's main phone number, (860) 343-5800. (When calling the main phone number, be sure to choose option 1 from the menu for school closings.) If classes are already in session, everyone on campus will be notified of any changes. Decisions to cancel classes or close the college early will be made as soon as practicable.*

Off Campus Sites:
The MxCC Meriden Center will comply with the Middletown campus policy. Exception: In the event of extreme weather only in the Meriden area and the Middletown campus determines to hold classes, the decision to cancel classes at the Meriden Center will be determined by the MxCC Meriden Center Director and the Dean of Finance & Administration.

The Old Saybrook off campus site will comply with the Middletown campus policy. Exception: In the event of extreme weather only at the off campus site, the decision to hold or cancel classes at this extension center will be made by our campus extension program director. Faculty should call the Continuing Education Office at (860) 343-5865.

Note: Off campus sites are ultimately subject to the cancellation policy of the school in which MxCC holds classes.
******Online classes are NOT affected by weather cancelations******

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.

Religious Accommodations Statement: If your religious obligations conflict with the course calendar requirements, and if you wish to request an accommodation, you must make your request in writing prior to the date of the assessment or activity you will miss and preferably at the beginning of the semester. When requesting a make-up quiz, test, exam, assignment, or activity, state the reason for your request and the date(s) on which your religious obligation(s) will conflict with the course calendar requirements. Also, if your religious obligation/holiday is unfamiliar to your instructor, you may be asked to provide a calendar which shows the published date(s) of your religious observance(s) or holiday(s).

Additional Academic Policies: Please refer to the official college catalog for all other academic policies.

Departmental Outline

Course Description
Graphs and charts, measures of central tendency and variation. Elementary probability theory, random variables, probability distributions, with emphasis on the binomial and normal. Sampling distributions, hypothesis testing, confidence intervals, correlation and linear regression. Use of technology included. *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
After completing this course, the student will be able to: • Describe both descriptive statistics and inferential statistics • Construct (by hand and using technology, as appropriate) and interpret tables, graphs, and numerical summaries of data sets • Understand the importance of appropriate data gathering methods • Understand elementary probability theory, discrete and continuous random variables and probability distributions, and sampling distributions • Construct (using technology, as appropriate) and interpret confidence intervals • Perform (using technology, as appropriate) and interpret one- and two-sample hypothesis tests (population mean and proportion) • Find (using technology), interpret, and use the least-squares regression line • Be better informed citizens as a result of being able to understand and interpret media reports involving statistics and statistical studies

Unit No.	Instructional Unit	Specific Objectives of Instructional Unit Assume that each statement is prefixed with "The student will be able to".
1	Introduction to Statistics	• Explain how the scientific method applies to statistics • Formulate null and alternative hypotheses • Explain direction of the extreme and how it determines alternative hypotheses • Explain *p*-value and how it is used to make decisions • Explain Type I and Type II errors and their consequences • Explain the difference between population and sample • Explain how a parameter differs from a statistic
2	Producing Data	• Explain various types of bias that may occur in statistical studies • Explain the difference between the target population and the sample • Explain factors to consider when designing a statistical study • Identify and explain various types of sampling • Generate random integers appropriately in applied situations • Explain the difference between response variables and explanatory variables • Explain confounding variables • Explain the difference between treatment and control groups • Explain the difference between experimental study and observational study • Explain the difference between retrospective and prospective studies
3	Summarizing Data Graphically and Numerically	• Explain the meaning of *descriptive statistics* • Construct (by hand and with technology, where appropriate) and interpret frequency distributions, relative frequency distributions, bar charts, pie charts, histograms, stem-and-leaf displays, box-plots, and time plots. • Identify misleading graphical displays • Recognize and interpret symmetry and skewness in a distribution • Interpret the numerical summary measures • Calculate (by hand or using technology, as appropriate), explain, and interpret mean, mode, median, range, variance, standard deviation, percentiles, and quartiles for a given data set

4	Probability	• Demonstrate understanding of normal distributions • Apply the 68-95-99.7% Rule • Explain and apply standardization • Find proportions and percentiles using normal distribution • Explain the concept, vocabulary, and rules of probability • Identify sample spaces and events • Explain disjoint events • Find probabilities of events • Combine events using complement, union, and intersection • Apply the definition of independence • Apply the laws of probability • Explain random variables • Explain the difference between discrete and continuous random variables • Construct and interpret probability distribution tables and graphs • Calculate (by hand or using technology, as appropriate) and interpret mean and standard deviation • Apply (appropriately) the binomial distribution • Explain how to move from discrete to smooth continuous distributions • Apply the knowledge that probability for continuous random variables is represented by area • Explain the concept and importance of and be able to apply normal distributions
5	Sampling Distributions; Making Decisions	• Calculate and apply point estimates for the population mean, standard deviation, and proportion • Explain the meaning of the sampling distribution of a statistic • Describe the characteristics of the sampling distribution of the sample mean and sample proportion • Apply the Central Limit Theorem • Apply the t-distribution, when appropriate • Construct confidence intervals (by hand and using technology, as appropriate) for mean and proportion • Determine the minimum required sample size if given level of confidence and margin of error • Perform hypothesis tests (by hand and using technology, as appropriate) for population mean and population proportion and interpret their results • Interpret p-value

6	More about Making Decisions	• Construct appropriate confidence intervals in two-sample situations • Perform appropriate hypothesis testing in two-sample situations • Calculate (by hand or using technology, as appropriate), interpret, and use appropriately the least-squares regression equation for a data set • Explain the dangers of extrapolation • Explain residuals • Perform residual analysis • Distinguish between influential points and outliers • Calculate and interpret the correlation coefficient