

# Syllabus for Spring 2020 MATH 1100 Section 13324

Cuyahoga Community College Business, Technology & Mathematics Eastern Campus	
Course: MATH 1100 Mathematical Explorations	Instructor: Mike McCraith
Lecture Hours: 03 hours Laboratory Hours: 00 hours	
Office: EMHC 210 Office Phone: 216-987-2320	Office Hours: MW 9:00 - 10:00 am, 12:00 pm - 1:30 pm TTH 9:00 - 10:00 am, 11:30 am - 1:00 pm
Email: mike.mccraith@tri-c.edu	Website: <a href="http://www.mathaccordingtomike.com">http://www.mathaccordingtomike.com</a>
Text: <u>Mathematical Ideas</u> 13 <sup>th</sup> Ed, Miller, Heeren, Hornsby or MyMathLab Course ID mccraith46503	
Section 13324: TTH 10:00 am - 11:15 am EMHC 118	

## Prerequisites

Math 0955 Beginning Algebra, or Math 0990 Math Literacy for College Students, or sufficient score on math placement test; or departmental approval.

## Course Description

Survey of mathematical topics. Introduction to basic concepts of problem solving, set theory, logic, number theory, and college geometry.

## Course Schedule

For the first five minutes of class (on non-quiz or test days), I will go over exercises that the student could not complete. The person who asks a question may be asked what they didn't like about the problem or what they didn't understand. The quiz or test will be given at the beginning of the class period. A normal lecture will follow on quiz days.

## Attendance

It is your responsibility to attend every class. Attending more classes increases the chance of a better grade. **You are also responsible to find out what you missed and your responsibility to contact a classmate for any notes you have missed.** Students are expected to arrive on time and stay for the entire class. Regular class attendance is expected. Tri-C is required by law to verify the enrollment of students who participate in federal Title IV student aid programs and/or who receive educational benefits through other funding sources. Eligibility for federal student financial aid is, in part, based on your enrollment status.

Students who do not attend classes for the entire term are required to withdraw from the course(s). Additionally, students who withdraw from a course or stop attending class without officially withdrawing may be required to return all or a portion of the financial aid based on the date of last attendance. Students who do not attend the full session are responsible for withdrawing from the course(s).

Tri-C is responsible for identifying students who have not attended a course, before financial aid funds can be applied to students' accounts. Therefore, attendance will be recorded in the following ways: For in-person courses, students are required to attend the course by the 15th day of the semester, or equivalent for terms shorter than 5-weeks, to be considered attending. Students who have not met all attendance requirements for an in-person course, as described herein, within the first two weeks of the semester, or equivalent, will be considered not attending and will be reported for non-attendance and dropped from the course.

At the conclusion of the first two weeks of a semester, or equivalent, instructors report any registered students who have "Never Attended" a course. Those students will be administratively withdrawn from that course. However, after the time period in the previous paragraphs, if a student stops attending a class, wants or needs to withdraw, for any reason, it is the student's responsibility to take action to withdraw from the course. Students must complete and submit the appropriate Tri-C form by the established withdrawal deadline.

Tri-C is required to ensure that students receive financial aid only for courses that they attend and complete. Students reported for not attending at least one of their registered courses will have all financial aid funds held until confirmation of attendance in registered courses has been verified. Students who fail to complete at least one course may be required to repay all or a portion of their federal financial aid funds and may be ineligible to receive future federal financial aid awards. Students who withdraw from classes prior to completing more than 60 percent of their enrolled class time may be subject to the required federal refund policy.

If illness or emergency should necessitate a brief absence from class, students should confer with instructors upon their return. Students having problems with class work because of a prolonged absence should confer with the instructor or a counselor.

## Homework, PowerPoint Package, Quizzes, and Projects

There will be online homework assigned for every section that we cover in class. Homework can be accessed on MyMathLab <http://portal.mypearson.com>. **The Course ID is mccraith53852.** You will have ample time to complete the homework. You should consider printing out the homework to do the problems on paper, log back in, and the submit answers. Each section is worth 3 points. Homework is only available for one week.

Quizzes are also posted on the MyMathLab website listed above. Quizzes cover the entire chapter and are worth 10 points. You have only two hours and one chance to complete the quiz. Make sure you stay organized as you do your homework and quizzes to ensure full credit is received. The last day to take the quiz is the day of the test.

The PowerPoint Package can be found on the BlackBoard site. The problems on the package correspond to the planned problems in classes. As the class progresses, you'll need to bring the PowerPoints to class with you and fill them in. PowerPoints are also due on test day, at the beginning of class, and they are worth 5 points per collection.

You may work on the projects with only people from our class, by yourself, or you may ask me for help. **You may not seek outside help including, but not limited to, tutors, friends, family, or the internet.** Due dates on the projects will be announced. More information will be given as the course progresses.

## Partial Credit Policy

While grading projects and tests, partial credit will be given based on the amount of work shown and how correct the work is. For example, a student who gets their answer straight from the calculator without showing any work will receive very few points—even if the answer is correct. Whereas a student who does the correct work but somehow arrives at an incorrect answer will receive the majority of the credit. Algebraic mistakes warrant only a few points lost; however, conceptual errors will not earn many points of partial credit. I understand that there are times where you must use the calculator to get the answer, and thus in those cases, the policy does not apply.

## Tests

A test will be given approximately two classes after the final section the test will include is covered in class. A 200-point Final will be given on the last day of class. Tests may consist of homework-style problems, true/false, and short answer. **The test must be done in pencil. A test not done in pencil or one that is done in poor handwriting will not be graded. All steps must be shown on the test or full credit will not be given (in Math, how you get the answer is sometimes more important than the actual answer.)** A test will not be given to a student if the student arrives on the day of the test after the first test has been handed in. Be sure to get to the class early on test days.

The lowest test score will be replaced by the Final as long as the student has not cheated in the course.

## Make-ups

A make-up is considered to be any assignment that is taken after the class takes it. There will be no make-ups offered for any reason. Be sure to have all materials on the day and by the time that they are required which is the beginning of class. Materials turned in after the class has begun will not be graded. If you know you will not be able to make it to class when an assignment is due, you can send a scanned copy of your work to my email. You may also take a photo with your cell phone and email it to me. Make sure the file size is not large or the email may not be received. The deadline for scanned material remains the same as if you were in class. **Extra time will NOT be given for any reason.**

## Cell Phone Policy

Tests are already stressful parts of any math class, but, a disruption, like a cell phone, can make the entire experience worse. Due to this, if any disruption is caused during a test from a cell phone, the student with the cell phone will be required to write a paper. See below for information on the paper. If the paper is not turned in within one week, the student will receive a zero on the test.

The paper should focus on disruptions during a test caused from cell phones. You may also briefly discuss other forms of disruptions. End the paper with a summary of what you have learned in this process. The paper is to be three pages in length, double-spaced, with an additional page of references. You must site two references using the MLA format.

If after all of this and the same student allows their cell phone to disrupt another test, the student will be asked to leave the class and will receive a zero on their test.

A disruptive cell phone includes one that rings and one that is on vibrate. I completely understand that life occurs outside of the classroom. If it is a test day and you are expecting an important call, simply place the cell phone on your desk and put it on silent. The cell phone will still light up to let you know there's an incoming call or text. If that occurs, turn your test over and quietly leave the room to answer the call. That way, you will minimize the disruption and it should not break the concentration of fellow students.

During class, cell phones are considered to be participating in disruptive behavior and will not be tolerated in class. Cell phones may not be used on quizzes and tests. They must be turned off or on silent- not vibrate. **Anyone using one to text message during any class period will be asked to leave for that day.**

## Cheating Policy

Cheating will not be tolerated by the instructor. It includes having any extra materials not approved by the instructor. Cheating also includes having these materials in your possession—whether or not you are using them. For instance, if you borrow a calculator, you are obligated to make sure there are no formulas in the calculator. Make sure to use common sense while test taking. Do not, for any reason, look over at another student. Otherwise, you will be considered to be cheating.

Misuse of external resources (including, but not limited to, the back of the book, other textbooks, another student's work, the internet, and the solution manual) by submitting work that is not their own also constitutes cheating. For example, if a student copies the answers from the back of the book and turns that in as their homework, it is considered cheating. **If you do not understand how to get the answer, do not simply copy down the work from an external source.** Instead, ask me to help you with the problem. Copying down from an external source does not demonstrate mastery of the material and will not help you on the exam and on the final. I would rather you leave a problem blank than write the copied answer from an external source. It is your responsibility to make sure you have all of your questions answered **before** the assignment is due. Never give me the impression that you are cheating. Never look over at other student's work and never talk during the test for any reason.

On the first instance of cheating, the student will be reported to the Dean of Student Affairs, the grade received for that entire assignment/exam will be a zero, and the final grade will be lowered by one letter. For the second instance of cheating, automatic failure in the course will result and a Student Conduct Hearing will take place. See the Student Handbook for more information.

## Instructor's Expectations

Please be courteous to all members of the class. Actions deemed rude such as disruptive behavior, including talking, whispering, tardiness, early departure or insulting or disrespectful comments or actions towards anyone will not be tolerated. Math is a difficult subject for most people, so I strongly encourage you to ask any questions you may have (without having to worry.)

**Come to class prepared for the day's lesson by reading ahead.** This is the best way to take more out of the day's lecture. Be sure homework is done in a timely manner and that you adequately schedule your time to include homework and studying. Studying only a "couple hours" for a test is never enough. Be sure to start to study for a test at least 2 days before the test. That way, you leave enough time for the material to be understood and to ask any questions. Do not wait until the last minute to get the help you might need! If you do not ask questions when you have them, then you are shorting yourself of an opportunity to learn the material. I will answer all questions in a respectful, patient, and timely manner.

As for a hint: be sure not to only write down what I write down on the board, but also what I say *in between* the steps. This will greatly help you as you study. Also, if you need to audio record the class, feel free to do so. Believe it or not, this could help you fill in the gaps to your notes. Please, no children in the class.

## Assistance

Tutoring is available in the Learning Center (ESS 1202) on a free, walk-in basis. Free online tutoring is available with a link under Student Services in My Tri-C Space through eTutoring and Smarthinking.

## Disabilities

Students with disabilities at Cuyahoga Community College are expected to take an assertive role in communicating with faculty and staff members about their need for reasonable accommodation. If you need course adaptations or accommodations because of a disability, you should contact the ACCESS Office located in ESS1213-1216. The ACCESS office phone number is 216-987-2052.

## Incomplete Grades

The grade "I" is only given if a student meets **both** of the following conditions:

- The student has a **passing status** in the class and has completed at least 70% of the course work, AND
  - The student is unable to complete the rest of the required course work due to circumstances *judged by me* to be beyond his/her control.
- A notation of "I" indicates that you must complete the course requirements within five (5) weeks of the next semester (summer excluded) or the "I" will be automatically changed to an "F". See Student Handbook for more information.

## Grading

Grades will be based on the following†:

About Me*	9
Syllabus Quiz	10
Homework*	66
Homework Quizzes	50
Weekly Planner*	10
PowerPoint Package*	15
Projects	40
3 Exams	300
Final	200
TOTAL	700

† Total point value subject to change due to time

Final grades are based on:

Percent	Points	Final Grade
90 - 100	630 - 700	A
80 - 89	560 - 629	B
70 - 79	490 - 559	C
60 - 69	420 - 489	D
0 - 59	Below 420	F

\*Graded on an All-or-Nothing Basis

### Concealed Carry Statement

College policy prohibits the possession of weapons on college property by students, faculty and staff, unless specifically approved in advance as a job-related requirement (i.e., Tri-C campus police officers) or, in accordance with Ohio law, secured in a parked vehicle in a designated parking area only by an individual in possession of a valid conceal carry permit. As a Tri-C student, your behavior on campus must comply with the student code of conduct which is available on page 29 within the Tri-C student handbook, available at <http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf>. You must also comply with the College's Zero Tolerance for Violence on College Property available at <http://www.tri-c.edu/policies-and-procedures/documents/3354-1-20-10-zero-tolerance-for-violence-policy.pdf>

### Academic Course Credit

In order to award one semester hour of college credit, the Ohio Board of Regents requires two hours of significant student study outside of class for each one hour in class for the equivalent of an academic semester (16 weeks). This is a six credit hour class taught in sixteen weeks. Therefore, the required course load requirement is 6 hours in class each week and an average of 12 hours each week outside of class for the semester to earn six semester hours of college credit. Thus, this six credit hour course requires an average of 18 hours of effective student effort per week for the entire semester.

### Withdrawal

Students may withdraw from any semester course prior to the end of week 12 of the full semester or 80 percent of any instructional part of semester. Specific withdrawal dates are available by semester in any Enrollment Center or published in the schedule of courses. Students must submit a completed withdrawal form or follow the approved electronic process when available. The refund schedule for all parts of semester and the Summer Session is determined in proportion to the full semester schedule as established by College procedure. Up to the last day of week 12 of the full semester, a student may withdraw from a course(s) for any reason. Withdrawal from a course prior to the last day of the second week of the semester will have no notation made noted with a "W." Regular class attendance is expected. Tri-C is required by law to verify the enrollment of students who participate in Federal Title IV student aid programs and/or who receive educational benefits through other funding sources. Tri-C is responsible for identifying students who have not attended or logged into a class for which they are registered. At the conclusion of the first two weeks of a semester, instructors may report any registered students who have "Never Attended" a class so that those reported students will be administratively withdrawn from that class. However, it is the student's responsibility to withdraw. Withdrawals related to student conduct are administrative withdrawals processed by the Dean of Student Affairs, using the appropriate Tri-C form, from any class which she/he is no longer attending or risk receiving a failing grade in that class. Student's wishing to withdraw must complete and submit the appropriate Tri-C form by the established withdrawal deadline. All transactions involving withdrawal from courses shall be done in writing and on forms provided by Tri-C or through electronic means. A student's failure to attend classes shall not constitute an official withdrawal. (Student Handbook)

The last day to withdraw with NO RECORD is Monday, January 27, 2020. The last day to withdraw with a "W" grade is Friday, April 10, 2020.

### Extra Information

Office hours! Use them to your advantage. Let no question go unasked. **Be sure to have your questions prepared in advance to maximize efficiency during office hours.** There is not time to redo the lecture during office hours so come prepared to ensure all students are given a chance for help. I am also available for online tutoring using Skype. My Skype name is mike.mccraith. **If you wish to meet with me, please give me advance notice by emailing me at my Tri-C address.** I do not log on unless I know someone is there.

### College Calendar

Date	Calendar Description
January 13, 2020	Spring Semester Begins
January 20, 2020	Martin Luther King Day - College Closed - No Classes Scheduled
January 27, 2020	Last Day to Withdraw from Full Term with NO RECORD
March 9-15, 2020	Spring Break - No Classes Scheduled
March 20, 2020	Academic Progress Reporting for Full Term Due
April 10, 2020	Last Day to Withdraw from Full Term Course with a "W" Grade
May 4-10, 2020	Final Exam Week - Full Term
May 10, 2020	Spring Semester Ends
May 12, 2020	Final Grades Due
May 14, 2020	Commencement

## PERFORMANCE OBJECTIVES

Upon satisfactory completion of MATH 1100 Mathematical Explorations, the student should be able to perform the following outcomes and supporting objectives:

- A. Solve problems utilizing various techniques.
- B. Demonstrate knowledge in the basic concepts of set theory.
- C. Demonstrate a knowledge of the basic principles and terminology of symbolic logic.
- D. Convert between various bases.
- E. Categorize numbers using various topics in number theory.
- F. Demonstrate and use the principles of transformational, non-Euclidean, and fractal geometries in modeling the universe.

## TOPICAL OUTLINE

1. Problem solving
2. The Basic Concepts of Set Theory
3. Introduction to Logic
4. Base Conversions
5. Number Theory
6. College Geometry

# Math 1100 Extremely Tentative Schedule

Day of	Sections Covered	Day of	Sections Covered
January 14, 16	Introduction 1.1 Solving Problems by Inductive Reasoning	March 17, 19	Test 2 Chapter 3
January 21, 23	1.2 An Application of Inductive Reasoning: Number Patterns 1.3 Strategies for Problem Solving	March 24, 26	4.4 Conversion Between Number Bases 5.1 Prime and Composite Numbers
January 28, 30	1.4 Numeracy in Today's World 2.1 Symbols and Terminology	March 31, April 2	5.2 Large Prime Numbers 5.3 Selected Topics from Number Theory
February 4, 6	2.2 Venn Diagrams and Subsets 2.3 Set Operations	April 7, 9	5.4 Greatest Common Factor and Least Common Multiple 5.5 The Fibonacci Sequence and the Golden Ratio
February 11, 13	2.4 Surveys and Cardinal Numbers 3.1 Statements and Quantifiers	April 14, 16	Test 3 Chapters 4 and 5
February 18, 20	Test 1 Chapters 1 and 2 3.2 Truth Tables and Equivalent Statements	April 21, 23	9.6 Transformational Geometry (Tessellations) 9.7 Non-Euclidean Geometry and Topology
February 25, 27	3.3 The Conditional and Circuits 3.4 The Conditional and Related Statements	April 28, 30	9.8 Chaos and Fractal Geometry Review
March 3, 5	3.5 Analyzing Arguments with Euler Diagrams 3.6 Analyzing Arguments with Truth Tables	Thursday, May 7	Final 9:15 - 11:15 am
March 10, 12	Spring Break! Celebrate National Pi Day March 14!		