

Syllabus

Intermediate Algebra with Geometry

Math 99 BC – Fall 2017

Course Title	Intermediate Algebra with Geometry
Credit Hours	5
Length of Course	16 weeks
Prerequisites	Grade of C or better in Mathematics 98, or placement test, or consent of department chair.
Section	99 BC (section number: 31465)
Classes	Monday, Wednesday, 9:30 AM – 11:50 AM in Room 3150
Instructor	Marta Hidegkuti e-mail: mhidegkuti@ccc.edu Office: Room 3812
Office Hours	Monday, Tuesday, Wednesday, Thursday 12:00 PM – 12:45 PM in Room 3812 Monday, Tuesday, Wednesday, Thursday 1:00 PM – 1:30 PM in Room 1176 (MC) Monday, Wednesday 5:00 PM – 5:30 PM in Room 3812 or by appointment. Please note that some office hours might be cancelled or re-scheduled due to meetings.

WEB SITES

All handouts and announcements will be available on the class's web site, at http://www.teaching.martahidegkuti.com/Math99/math99_fa17/Math99.html. Homework will be assigned on **MyOpenMath**. The use of MyOpenMath is mandatory but it is completely free. Students can log in at www.myopenmath.com and enroll using course ID **24918** and enrollment key **Math99fall2017**.

TEXTBOOK

Beginning and Intermediate Algebra by Tyler Wallace. The textbook is free to download as a pdf file at <http://www.wallace.ccfaculty.org/book/book.html>. The purchase of a physical book is not necessary. Most topics will be covered by handouts posted on the course's web site.

CALCULATOR

The use of a scientific calculator is strongly recommended. Students are expected to bring the calculator to class. The optimal calculator is **TI-30X II S**. The price of this model is between \$15 and \$20. Do NOT purchase a different calculator if it is significantly more expensive. Any calculator different from TI-30X II S has to be approved by the instructor first. If a calculator is able to compute symbolically, (f.e. that $\sqrt{12} = 2\sqrt{3}$), then it is not allowed to be used during quizzes and exams. **During quizzes and exams, students are not allowed to use a graphing calculator. Students are not allowed to use a cell phone as a calculator any time during class.**

IMPORTANT DATES

First class: Monday, August 28	Exam 3: Wednesday, November 15
Holiday, no class: Monday, September 4	Last Day for Student Initiated Withdrawal: Monday, November 20
Exam 1: Wednesday, September 27	Exam 4 (same as the Final Exam): Wednesday, December 13
Exam 2: Wednesday, October 18	End of Semester: Saturday, December 16

ATTENDANCE POLICY

Attendance is an essential part of the course. Regular attendance is expected of all students in the course. Attendance will be taken each class period. Students are expected to be on time and to attend the entire session. Please make every effort to arrive on time. If you are absent, you are responsible for all work and assignments covered in class that day.

No-Show Withdrawal (NSW)

Students who do not attend the first two class sessions will be withdrawn from the class by the instructor and issued an NSW.

Administrative Withdrawal (ADW)

Students will be administratively withdrawn at midterm if at least two of the following apply:

1. Less than 70% of quizzes and tests up to the midterm (October 22) have been attempted.
2. Less than 70% of assignments (homework) up to the midterm (October 22) have been attempted.
3. Less than 70% of class sessions up to the midterm (October 22) have been attended.
4. Student missed 4 consecutive classes by October 22.

WITHDRAWAL FROM THE COURSE

Not attending classes does not constitute withdrawal from the course. After midterm, instructors can no longer drop students from the course. If students stop attending classes after the midterm, the instructor can only assign a grade of F.

If you no longer attend classes, it is essential that you stop by at the registrar's office and officially withdraw from the course to protect your average. The last day for student initiated withdrawal is Monday, November 20. Before withdrawing from the course, students are encouraged to consult the instructor.

GRADING POLICIES

Students who register late are responsible for all course work they missed due to their absence. **All assessments (quizzes and exams) will be cumulative.** Occasionally, extra credit assignments may be assigned. In all cases, **extra credit cannot count for more than 5%** of the course grade. Please retain all class-related material until you receive your final grade for the course. The final exams will not be distributed. They will be kept by the instructor for a calendar year after the course and then they will be destroyed.

Grading Scale

Grading of all assignments, quizzes, and exams will be based on the following scale.

90-100: A 80-89: B 70-79: C 60-69: D 0-59: F

Midterm Grade

The midterm grade will be the weighted average of the grades shown below with their weights.

Exam 1: 30% Exam 2: 35% Quizzes: 30% Homework: 5%

Before determining the grade given for quizzes, the lowest quiz score will be dropped.

Final Grade

The final grade will be the weighted average of the grades shown below with their weights.

Exam 1: 10% Exam 2: 15% Exam 3: 20% Exam 4: 25% Quizzes: 25% Homework: 5%

Before determining the grade given for quizzes, the lowest two quiz scores will be dropped.

MAKE-UP POLICY

Without exception, there will be no making up quizzes. Permission to make-up an exam is subject to the discretion of the instructor, and will be granted only in cases of emergency. If an absence is anticipated, the student should notify the instructor prior to the absence. Students need to present written documentation to make-up an exam. Without exception, students can only make up one exam in the course. All make-up exams will take place on Friday, December 8.

ACADEMIC INTEGRITY

The City Colleges of Chicago has no tolerance for violations of academic integrity., Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in a grade of F. All course work will be checked for academic integrity. In this course, the first violation will result in an F for the assignment; the second violation will result in course failure. Make-ups and revisions are not available after an infraction of academic integrity. For further information, please refer to the [Academic and Student Policy](#).

Students must work on their own to solve homework problems. To complete any assignment in the course with the help of software or website that solve mathematics problems constitutes cheating.

CLASS ROOM ETIQUETTE

Respect

At all times, please treat the instructor, other students, and their opinions with respect.

Writing on or otherwise marking tables and other CCC property is prohibited and will not be tolerated. Please use paper for computations or notes. If you use the chalk board, please refrain from touching it with your hand, as the oil from our skin tends to damage the board.

Eating and chewing gum are not allowed in the class rooms. Students are allowed to eat only in designated areas such as the cafeteria or student lounge. Writing or drawing on the tables or otherwise marking them are prohibited.

Avoid Distractions

Tardiness is a distraction to the learning environment. **Please make every effort to arrive on time for class.** Our class starts at 9:30. If you walk in at 9:30, you are late. At that time, students are expected to have arrived, seated, finished greeting each other, and are ready for the class to begin. If you are arriving late, please do not interrupt the class with an apology or greeting. Try to come in and join the class as quietly as you can. Students coming late are responsible for all content they have missed.

Before arriving to class, please **turn off all cell phones, pagers, and other loud devices.** The use of cell phone during class is not allowed. If you are in the habit of texting, facebooking, or otherwise entertain yourself using your cell phone, you will be asked to please put away the phone. Students are expected to pay attention to what is going on in the class, follow along, and ask and answer questions. Students do not need to raise their hand to speak. Lectures are intended to be a whole-group discussion. Please refrain from starting a parallel conversation.

Repeated noises such as sniffing, moaning or sighing are generally normal behavior but are very distracting during quizzes and exams. **Students are to refrain from making such noises during quizzes and exams.** If there is a medical reason making that impossible, the instructor must be notified in advance so that arrangements can be made for a separate room for that student.

Questions

When new material is presented, questions are welcome. It is essential that students understand the concept being covered. No questions are bad or silly!

At the beginning of class, students have a chance to ask questions about homework problems, review problems, and generally, old material. The more specific these questions are, the better. Class time is precious as there is a great deal of material to go through. If a question is as general as "Can you show again how to do this type of a problem?", two times is the limit. If a particular concept or problem was already presented in class as new material, and presented again at the beginning of class in its entirety, it will not be presented during class for the third time. Not only we do not have the class time for this, but it is also unfair to students who understood the problem the first time around.

If you need an extensive review (for example, due to absence) of material presented in class, please see the instructor during office hours. Valuable class time can not be spent on assisting one or a few students to the detriment of the entire class. Office hours are designated to address these problems.

Office Hours

Arrive to office hours prepared. If you have missed a class, be sure to obtain and read all class-related material (handouts, text book section, and class notes). Have a list of specific questions. If you need help with a problem, bring your work on the problem with you – that will greatly expedite things. After your questions are answered, please leave so that the next student can enter. Please do not bring food to the instructor's office.

Contact

At all times, email is the fastest and most efficient method to contact the instructor. If you wish to contact the instructor about grades or attendance or other administrative issues via email, please use your CCC student account. FERPA (Family Educational Rights and Privacy Act) is a federal law that protects the privacy of student educational records: www.ed.gov/policy/gen/guid/fpco/ferpa/index.html. Faculty cannot reveal information about students, or discuss student records over the phone or unsecure e-mail. CCC student e-mail meets FERPA requirements.

If a student wants to receive class-related information via e-mail to an e-mail address different from the student ccc account, they must first complete a release form posted at <http://www.teaching.martahidegkuti.com/shared/resources/ferpa.pdf>.

When e-mailing the instructor, please identify yourself and the class you are taking. Your instructor just met 105 new students. Please take the effort to use correct English and proper capitalization and punctuation in your e-mail correspondence. Communications such as “*can u pls reset my hw*” are unacceptable in an academic setting just as much as they would be unacceptable in a job.

ACADEMIC SUPPORT SERVICES

The Math Center provides an open space to work on mathematics homework, emphasizing group study with roaming staff of tutors (adjunct instructors as well as student/peer tutors). One-on-one appointments are available for certain courses and circumstances. Computers, textbooks and calculators are available on site for student use.

Hours: Monday–Thursday: 9am–9pm

Friday, Saturday: 11am–4pm

Location: Room 1176, Main Building

Website: <http://www.ccc.edu/colleges/truman/departments/Pages/Math-Center.aspx>

Contact: 773-907-6832 – Cary Tucker, Coordinator – etucker@ccc.edu

The Tutoring Center offers 1-on-1 50-minute appointments for tutoring in Accounting & Economics, French & Spanish, Humanities, History, Adult Education: ESL Levels 1-8, GED Writing, GED Math (in English & Spanish). Students can make appointments through GradesFirst, at our front desk, by phone, or they can walk-in. Also provides Conversation Groups for ESL Levels 1-8.

Hours: Monday–Thursday: 9am–7pm

Friday: 9am–5pm

Saturday: 9am–2pm

Temporary Location*: Room 2300A, Main Building

Website: <http://www.ccc.edu/colleges/truman/Pages/Search-Results.aspx?q=tutoring+center>

Contact: 773-907-4785 – Raeann Caldwell, Tutoring Center Coordinator – rcaldwell1@ccc.edu

*For the first half of the semester Room 2300A, Main Building, for the second half of the semester and moving forward Room 1440, Main Building. Please stay tuned for more updates. *

Disability Access Center is located in Room 1435. The Center verifies needs pursuant to the American Disabilities Act (ADA), determines student academic accommodations, and issues accommodation letters. Registration is required at the start of each semester. (773) 907 - 4725, web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Disability-Access-Center.aspx>

The Wellness Center is located in room 162 in the Larry McKeon Building. Services include: Personal, individual counseling, support groups, stress and time management coaching, referrals to community resources, special support for victims of relationship violence and sexual assault includes one-on-one counseling; safety planning; and referrals to medical care, legal services, and emergency child care. Contact: (773) 907-4786 for an appointment or information. Web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Wellness-Center.aspx>

GradesFirst is a student support system that will be used by faculty, advisors and tutors to help students achieve success in their classes. Use GradesFirst to schedule tutoring or advising appointments, or to see communications about your course progress generated by me or your other professors.

CALENDAR OF EVENTS

Please note that the Calendar of Events is subject to change. To save class time, some quizzes might be cancelled. (Usually one or two each semester). Last revised: August 25, 2017.

	Monday	Wednesday
Week 1	Class 1 – August 28	Class 2 – August 30
Week 2	September 4 – No Class	Class 3 – September 6 Quiz 1
Week 3	Class 4 – September 11	Class 5 – September 13 Quiz 2
Week 4	Class 6 – September 18	Class 7 – September 20 Quiz 3
Week 5	Class 8 – September 25	Class 9 – September 27 Exam 1
Week 6	Class 10 – October 2	Class 11 – October 4 Quiz 4
Week 7	Class 12 – October 9	Class 13 – October 11 Quiz 5
Week 8	Class 14 – October 16	Class 15 – October 18 Exam 2
Week 9	Class 16 – October 23	Class 17 – October 25 Quiz 6
Week 10	Class 18 – October 30	Class 19 – November 1 Quiz 7
Week 11	Class 20 – November 6	Class 21 – November 8 Quiz 8
Week 12	Class 22 – November 13	Class 23 – November 15 Exam 3
Week 13	Class 24 – November 20	Class 25 – November 22 Quiz 9
Week 14	Class 26 – November 27	Class 27 – November 29 Quiz 10
Week 15	Class 28 – December 4	Class 29 – December 6 Quiz 11
Week 16	Class 30 – December 11	Class 31 – December 13 Exam 4
End of Semester: Saturday, December 16		

Last day for student initiated withdrawal: Monday, November 20

COURSE INFORMATION

Catalogue Description

Algebraic topics include: rational exponents; scientific notation; radical and rational expressions; linear, quadratic, quadratic in form, rational, radical, and absolute value equations; compound linear inequalities; literal equations; systems of linear equations in two and three variables; systems of linear inequalities; and introduction to functions. Geometric topics include: perimeter; area; volume; Pythagorean Theorem; and similarity and proportions. Students should be exposed to graphing calculator technology and/or computer algebra systems. Writing assignments, as appropriate to the discipline, are part of the course.

Course Objectives

- Develop the algebraic skills necessary for problem solving.
- Develop the ability to model linear, quadratic, and other nonlinear relations, including the use of the graphing techniques and geometrical principles as tools, for the purpose of solving contextual (real-world) problems.
- Manipulate and apply literal equations for the purposes of solving contextual (real-world) problems.
- Writing and communicating the results of problem solving appropriately.
- Use technology as one aid for the purposes of solving contextual (real-world) problems.

Truman College General Education Goal(s)

Upon successful completion of this course, students will demonstrate the ability to think critically, abstractly, and logically.

Student Learning Outcomes

Upon satisfactory completion of the course, students will be able to:

Algebra

- Simplify expressions containing rational exponents.
- Perform operations on and simplify radicals.
- Perform operations on and simplify rational expressions.
- Solve quadratic equations with real solutions, including the use of the quadratic formula.
- Solve rational equations.
- Solve absolute value equations of the form $|ax + b| = c$.
- Solve radical equations of the form: $\text{square root}(ax + b) = c$.
- Solve compound linear inequalities.
- Solve systems of linear inequalities in two variables.
- Solve systems of linear equations in two and three variables.
- Formulate and apply an equation, inequality or system of linear equations to a contextual situation.
- Solve and evaluate literal equations, including nonlinear equations.
- Formulate and apply nonlinear literal equations to a contextual (real-world) situation.
- Graph linear and quadratic equations.
- Determine equations of lines, including parallel and perpendicular lines.
- Determine whether given relationships represented in multiple forms are functions.
- Determine domain and range from the graph of a function.
- Formulate and apply the concept of a function to a contextual (real-world) situation.
- Interpret slope in a linear model as a rate of change.

Geometry

- Apply formulas of perimeter, area, and volume to basic 2- and 3-dimensional figures in a contextual (real-world) situation.
- Apply the Pythagorean Theorem to various contextual (real-world) situations.
- Apply the concepts of similarity and congruency of triangles to a contextual (real-world) situation.

Set Theory

- Find the intersection and union of sets.
- Apply the concept of subset to mathematics problems.
- Use the set theory symbols and concepts of number sets such as the set of natural numbers, rational numbers, real numbers, and complex numbers.

Counting Theory (also called Combinatorics)

- Apply systematic listing to counting problems.
- Apply the fundamental counting principle to counting problems.
- Apply permutations to counting problems.

Number Theory

List the factors of a natural number.

Determine whether a number is a prime or not

Find the prime factorization of a natural number greater than 1.

Use the prime factorization to compute the greatest common factor (GCF) and least common multiple of numbers.

Apply the Fundamental Theorem of Arithmetics to divisibility questions.

Apply division with remainder to mathematics problems.

Logic

Apply the mathematical terms 'and' and 'or' within the context of a problem.

Prove statements using contradiction.

TIPS FOR SUCCESS

Make sure that you are enrolled into a class that you can handle. Many students fail a class because they are enrolled into the wrong course. A significant source of trouble passing Math 99 is poor placement. Despite a successful enrollment, despite a conversation with an advisor, despite a qualifying score on a placement test, many students are simply not ready for the course and need to take Math 98.

Do not take too much upon yourself. Enrolling into a 5 credit-hour class automatically means that you agree to study 10 hours per week outside of classroom. A common reason for failure is that students are taking one too many course.

Read the course syllabus! It is your contract with the instructor about how the course will go.

Attend every class and pay attention. Make sure you ask questions immediately if you don't understand what is going on. Don't wait until you get completely lost. Remember, when new concepts are presented, all questions are fair game and welcome. (Also, your instructor has a strong accent, so do not be shy.)

If students are sleep deprived, exhausted, sick, in pain, hungry, or intoxicated, they cannot learn. Showing up is not enough - you need to be mentally and physically ready to learn. **Make sure that you come to class well rested, sober, and ready to learn.**

Mathematics is not a spectator sport. **Efficient studying is problem solving without the aid of notes, books, or videos.** Reading notes, reading the textbook, or watching videos without practice will only lead to the illusion of preparedness. After reading and watching, practice solving problems without those aids.

Do not get behind! Mathematics is cumulative by nature. Yesterday's concepts are necessary for mastering today's material. If you miss a class, make sure you catch up with the course work immediately. Keep up with the homework. If you get behind, credit is not the only thing you will lose. More importantly, you will not be able to understand new material and therefore you can not get the full benefit of class meetings.

Format matters. Try to follow your instructor's suggestions with respect to format and philosophy.

Form or join study groups! Students who study together outside of class tend to do better than students who do not.

Get help! Your tuition (which was recently raised) includes the funding of the Math Center and Tutoring Center and your instructor's office hours. Make sure to visit these places at least once before you give up on them. Remember, you paid for those services.

Understand that you are part of learning community. Try not to completely withdraw or dominate the class by answering every question. You can not rewind a live lecture, so you need to pay attention. Put that phone away!

Avoid self-fulfilling prophecies such as "I am not good at math" or "I will never get this". This is a common misconception in the United States. Mathematics is just another skill on which we constantly work to improve. The more you apply yourself, the better you get at it. You might be surprised to find that you are actually good at it!

PROJECTED COURSE OUTLINE

Please note that the Course Outline is just a prediction, and is subject to change (it always changes). The class's web site contains a link to the actual Course Outline that will be updated after each class.

Week 1: [Course Information](#), [The words AND and OR](#), [Sets, Subsets, Unions and Intersections](#), [Set of all Natural Numbers](#), [Order of Operations](#), [Evaluating Algebraic Expressions](#), [Integers](#), Absolute Value of an Integer, [Division by Zero](#), [Square Root](#), [nth Root](#), [Divisibility 1](#)

Week 2: [Solutions of Equations](#), [Area of a Rectangle](#) and Perimeter of a Rectangle, Division with Remainder

Week 3: [Area of Right Triangles](#), [Prime Factorization](#), [Review of Fractions](#), [The Real Numbers – Part 1](#), [One- and Two-Step Equations](#)

Week 4: [Area of General Triangles](#), [Square-root of 2 is irrational](#), [Simplifying Algebraic Expressions](#), [Linear Equations 2](#), [Combinatorics 1](#), [Basic Percent Problems](#)

Week 5: [The Zero Product Rule](#), [More Linear Equations](#), [Area of a Parallelogram](#), Review for Exam 1, Exam 1

Week 6: [Rules of Exponents](#), [Factoring - Part 1](#) (GCF and factoring out -1), [Factoring - Part 2](#) (The difference of squares theorem), Area of a trapezoid, Completing the Square – [Part 1](#), [Part 2](#), [Fractions and Decimals](#), Divisibility 2

Week 7: [The Real Number System](#), [Radical Expressions 1](#), [The Rectangular Coordinate System](#), [Radical Expressions 2](#)

Week 8: Completing the Square – [Part 3](#), [Part 4](#), [Graphing Straight Lines 1](#), [Word Problems 1](#), Review for Exam 2, Exam 2

Week 9: [Integer Exponents](#), [Linear Inequalities](#), [The Real Number System](#), [Solving Systems by Elimination](#), [Solving Systems by Substitution](#), [The smallest value of a quadratic expression](#)

Week 10: [Graphing Parabolas 1](#) and [Practice](#), [Rational Expressions 1](#), [Absolute Value Equations](#), [The Pythagorean Theorem](#)

Week 11: [Summation 1](#), [Digit Problems](#), [Compound Inequalities](#), [The Quadratic Formula](#)

Week 12: [Rational Exponents](#), Review for Exam 3, Exam 3

Week 13: [Rational Expressions 2](#), Slope ([Graphing Straight Lines](#)), [Factoring by Grouping](#), [Factoring by the AC method](#) (more [practice](#)), [Functions](#), [Graphing Parabolas 2](#), [Mixture Problems](#)

Week 14: [Basic Motion Problems](#), [Complex Fractions](#), [Writing Equations of Lines](#), [Rational Equations](#), [Complex Numbers](#), [Work Word Problems](#)

Week 15: [Radical Equations](#), [Motion Problems](#), [Solving 3 by 3 System of Equations](#), [Similar Triangles](#), [Factoring the Sum and Difference of Cubes](#), [Basic Functions and their Properties](#)

Week 16: Final Review and Final Exam

ADDITIONAL RESOURCES

Open the pdf file for this syllabus to click on the links below.

[Previously Taught Courses](#) (check out my last Math 99 class if you want to study ahead!)

[Lecture Notes](#) (if you need review of Beginning Algebra)

[Videos linked to the Textbook](#)

[Khan Academy](#)

Self-Study Courses on [MyOpenMath](#)

Have a pleasant, productive, and rewarding semester!

Marta Hidegkuti