**Course Syllabus - Math 99 - Spring 2020**

Truman College

One of the City Colleges of Chicago

MATHEMATICS DEPARTMENT

Course Prefix and Number: 0045-0099

Course Name and Number: MATH 99

Course Title: Intermediate Algebra with Geometry

Length of Course: 16 weeks

PCS Code: 1.4

IAI Code: None

Semester Credit Hours: 5.0

Contact Hours (minutes): 5.0 (4000 minutes)

Lecture Hours (minutes): 5.0 (4000 minutes)

Lab Hours (minutes): 0.0 (0 minutes)

Method of Delivery Face to Face

Section: Math 99 En**terHe**reXY

Class Meetings: Ent**erHer**eDay, X:XX AM - Y:YY AM, Room En**terH**ere in Building 1

Instructor: Ent**erHe**re, email: Ent**erH**ere1@ccc.edu, ph. (773) 907-En**terH**ere
 office En**terH**ere

Office Hours: Ent**erHe**re Days, En**terH**ere Times, Room En**terH**ere

 Ent**erHe**re Days, Ent**erH**ere Times, Room Ent**erH**ere

Method of Delivery Face to Face

Method of Instruction: Ent**erHereB**egin Problem-based activities, collaborative-learning
 techniques, and lecture will be used as appropriate. En**terHereE**nd
Method of Evaluation: Ent**erHereB**egin Exams, quizzes, homework, projects, in-class
 participation En**terHereE**nd

**Textbook**

*Beginning and Intermediate Algebra*, Marta Hidegkuti, Truman College

This is an OER (open educational resource) book available for free download as

Part 1: <http://www.teaching.martahidegkuti.com/department/coordination/sp20/99weeks1to8.pdf>

Part 2: <http://www.teaching.martahidegkuti.com/department/coordination/sp20/99weeks9to16.pdf>

The textbook is bundled with MyOpenMath, an OER online platform. The use of MyOpenMath is mandatory but is also free. Login is at [https://www.myopenmath.com](https://www.myopenmath.com/index.php). Student can enroll into the online class using course number Ent**erHe**re and use enrollment key En**terHe**re.

**Calculator Policy**

Enter**HereBe**gin The use of a scientific calculator is mandatory or recommended or not allowed etc 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 $25. 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. Students are 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. Ent**erHereE**nd

**Additional Resources and Material**
En**terHereBe**gin for example: During classes, students need to have a notebook or plenty of paper, pen or pencil (pencil recommended). The use of a scientific calculator is recommended but not mandatory. Students do not need to bring the textbook to class. E**nterHereE**nd

**Methods of Evaluation**

En**terHereB**egin Exams, quizzes, homework and other assessments will be used as appropriate to measure student learning. Enter**Here**End

**Grade distribution**

 90% to 100% = A 70% to 79% = C Below 60% = F

 80% to 89% = B 60% to 69% = D

E**nterHereB**egin The weight given to exams, quizzes, and other instruments used for evaluation will be as follows.

 Exam 1: 20% Final Exam 30% Homework: 10%

 Exam 2: 25% Quizzes: 15% Ent**erHere**End

**Attendance**

E**nterHereBe**gin 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 a student is absent, they are responsible for all work and assignments covered in class that day. En**terHereE**nd

**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 (March 7) if at least two of the following apply:

 1. Less than 70% of quizzes and tests up to the midterm (March 7) have been attempted.

 2. Less than 70% of assignments up to the midterm (March 7) have been attempted.

 3. Less than 70% of class sessions up to the midterm (March 7) have been attended.

**Time Commitment**

E**nterHereBe**gin Attendance is not mandatory, but students should not expect to pass the class without attending. Enrolling into a 5 credit-hour class automatically means that you agree to study 10 hours per week outside of classroom. Some students might need more than that. En**terHereE**nd

**Make up Policy**

En**terHereBe**gin 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. En**terHereE**nd

**Academic Integrity**

E**nterHereBe**gin 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 solves mathematics problems constitutes cheating. E**nterHereE**nd

**Contacting the Instructor**

En**terHereBe**gin 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 un-secure e-mail. CCC student e-mail meets FERPA requirements. En**terHereE**nd

**Course Description:**

Algebraic operations involving rational exponents, including scientific notation. Algebraic expressions, including radical and rational expressions. Solutions of quadratic, quadratic in form, rational, radical, and absolute value equations. Solutions of compound linear inequalities. Solutions and manipulations of literal equations of literal equations. Graphical and algebraic solutions of systems of linear equations in two and three variables; graphical solutions to systems of linear inequalities. Graphs of linear and quadratic equations. Geometry topics: perimeter, are of geometric figures, triangles, rectangles, and circles; volume of sphere, cylinder and pyramid. Pythagorean Theorem and distance formula. Similarity and proportions. Applications of problem-solving skills are emphasized throughout the course. 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.

**Prerequisites:**

Completion of Math 98 with a C or better, or completion of FS Math 3003/3004 with grade of S, or ALEKS score of 30+, or COMPASS ALGEBRA 24+, or Consent of dept.

**Students Course Is Expected to Serve:**

This course is intended to prepare students for college-level mathematics. It is a prerequisite for transferable college mathematics courses.

**Course Objectives**:

1. Develop the algebraic skills necessary for problem solving.
2. 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.
3. Manipulate and apply literal equations for the purposes of solving contextual (real-world) problems.
4. Writing and communicating the results of problem solving appropriately.
5. Use technology as one aide for the purposes of solving contextual (real-world) problems.

**Student Learning Outcomes:**

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

1. Simplify expressions containing rational exponents.
2. Perform operations on and simplify radicals.
3. Perform operations on and simplify rational expressions.
4. Solve quadratic equations with real solutions, including the use of the quadratic formula.
5. Solve rational equations.
6. Solve absolute value equations of the form |ax + b|=c.
7. Solve radical equations of the form: square root (ax + b) = c.
8. Solve compound linear inequalities.
9. Solve systems of linear inequalities in two variables.
10. Solve systems of linear equations in two and three variables.
11. Formulate and apply an equation, inequality or system of linear equations to a contextual (real-world) situation.
12. Solve and evaluate literal equations, including nonlinear equations.
13. Formulate and apply nonlinear literal equations to a contextual (real-world) situation.
14. Graph linear and quadratic equations.
15. Determine equations of lines, including parallel and perpendicular lines.
16. Determine whether given relationships represented in multiple forms are functions.
17. Determine domain and range from the graph of a function.
18. Formulate and apply the concept of a function to a contextual (real-world) situation.
19. Interpret slope in a linear model as a rate of change.
20. Apply formulas of perimeter, area, and volume to basic 2- and 3-dimensional figures in a contextual (real- world) situation.
21. Apply the Pythagorean Theorem to various contextual (real-world) situations.
22. Apply the concepts of similarity and congruency of triangles to a contextual (real-world) situation.
23. Find the intersection and union of sets.
24. Apply the concept of subset to mathematics problems.
25. Use the set theory symbols and concepts of number sets such as the set of natural numbers, rational numbers, real numbers, and complex numbers.
26. Apply systematic listing to counting problems.
27. Apply the fundamental counting principle to counting problems.
28. Apply permutations to counting problems.

**Course Outline**
 Op**tionalEnterHereBe**gin Please note that the following course outline is a prediction of the course’s progress. Minor changes are to be expected. The instructor always has the right to modify the progress of the course. O**ptionalEnterHereEn**d

E**nterH**ereYour Own course Outline En**dEnt**er or

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| --- | --- | --- |
|  | **Monday** | **Wednesday** |
| Week 1 | Course Overview, Introduction to Intermediate Algebra, The words And and Or | The Set of all Natural Numbers, Order of Operations on Natural Numbers, Perimeter and Area of RectanglesIntroduction to Set Theory (set relations),  |
| Week 2 | Holiday - No Class | The Set of all Integers, Square Roots, Order of Operations on Integers, Factors of a Number,Perimeter and Area of Right Triangles, |
| Week 3 | Fractions 1 (the definition).Division with Remainder, Algebraic Expressions and Statements | [Set Operations](http://www.teaching.martahidegkuti.com/shared/lnotes/2_algebra1/sets/sets2/sets2.pdf), [Introduction to Number Theory](http://www.teaching.martahidegkuti.com/shared/lnotes/3_algebra2/numbertheory/numbertheory1.pdf), [Linear Equations 1](http://www.teaching.martahidegkuti.com/shared/lnotes/3_algebra2/linear_equations/twostepequationsZ99/twostepequationsZ99.pdf) (One- and Two-Step Equations),[Fractions 2](http://www.teaching.martahidegkuti.com/shared/lnotes/1Prealgebra/fractions/fractions2/fractions2.pdf) (equivalent fractions) |
| Week 4 | Simplifying Algebraic Expressions, LCM and GCD, Fractions 3 (mixed numbers and improper fractions),Fractions 4 (adding and subtracting),  | **Exam 1** |
| Week 5 | Fractions 5 (multiplying and dividing), IntervalsRules of Exponents, The nth Root of a Number,Linear Equations - 2 (unknown on both sides) | Multiplying Algebraic Expressions, Basic Percent Problems,The Rectangular Coordinate System |
| Week 6 | Holiday - No Class | Integer Exponents, Graph of an Equation, Graphing a Line, Linear Inequalities |
| Week 7 | Systems of Equations: Elimination and Substitution, The Zero-Product Rule, Factoring A (GCF and Diff. of Squares Theorem) | Completing The Square - 1, and 2, Summation 1 |
| Week 8 | Square-Root of 2 is Irrational,Fractions and Decimals, [The Real Number System](http://www.teaching.martahidegkuti.com/shared/lnotes/4_collegealgebra/real_numbers/part1/real_numbers1.pdf) | **Exam 2** |
| Week 9 | Radical Expressions 1, Smallest Value of a Quadratic Expression | Completing the Square - 3, and 4, Rational Expressions 1, The Pythagorean Theorem |
| Week 10 | Graphing a Parabola - 1, Compound Inequalities | Slope of a Line, Combinatorics 1 |
| Week 11 | Graphing a Parabola - 2, Rational Exponents |  The Quadratic Formula, Similar Triangles |
| Week 12 | Writing Equations of Lines, Radical Expressions 2 | **Exam 3** |
| Week 13 | Absolute Value Equations, Complex Numbers | Complex Fractions, More on Linear Systems,Basic Functions |
| Week 14 | Rational Expressions 2, Rational Equations | Radical Equations, Work Word Problems |
| Week 15 | Factoring by the AC Method (Optional), Functions | Systems of Linear Equations with Three Variables |
| Week 16 | Review | **Exam 4** |

**Truman College Mission Statement:** Our Mission dedicates us to deliver high-quality, innovative, affordable, and accessible educational opportunities and services that prepare students for a rapidly changing and diverse global economy.

**Academic Support Services**

**Americans with Disabilities Act** (ADA)

Truman College abides by the Americans with Disability Act and with Section 504 of the Rehabilitation Act of 1973 and will provide reasonable accommodations to students with disabilities covered by these laws. If you have a disability for which you may require accommodations, please contact the Disability Access Center located in Room 1435 or call (312) 553-3050.

http://www.ada.gov/pubs/adastatute08.htm

Hours: Monday–Wednesday: 9am–5pm ,Thursday: 9am-6pm, Friday: 9am-1pm, Saturday,Sunday: closed

web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Disability-Access-Center.aspx>

**Math Center & CIS Lab**

Provides an open space to do math homework, emphasizing group study with a 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.

Drop-in computer lab with tutoring support for CIS classes and coursework. Also offers tutoring on general computer literacy and topics like CCC Email, GradesFirst, BrightSpace, MS Office, and typing. No appointment needed.

Hours: Monday–Thursday: 9am-7pm

Friday & Saturday: 10am-3pm

Location: Room 1176, Main Building

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

Contact: 773-907-6832

Mark Carter, Coordinator

mcarter85@ccc.edu

**Science Center**

Provides an open study space for students to receive group tutoring or one-on-one tutoring for science classes. Tutors are available for both one-on-one appointments or drop-in tutoring. In this space students have access to models, computers, textbooks, whiteboards, and other materials to enhance the learning experience. Students can make appointments on GradesFirst, by phone, or at our front desk.

Hours: Monday–Thursday: 9am-7pm

            Friday & Saturday: 10am-3pm

Location: Room 177, Larry McKeon Building

Website: http://www.ccc.edu/colleges/truman/departments/Pages/Science-Center.aspx

Contact: 773-907-4355

Maria Suarez, Science Center Coordinator

msuarez53@ccc.edu

**Advancement Center**

Offers one-on-one 50-minute appointments for tutoring in Adult Education: ESL (all levels) and GED (Math, Science, and Language Arts). For any other Adult Education tutoring needs, please contact the Advancement Center to inquire about the variety of student workshops, conversation groups, and other services. In addition, the Advancement Center offers preparation for the CCC Read-to-Write and ALEKS Math Placement Exams. Students can make appointments through GradesFirst, at the front desk, or by phone. Some walk-in appointments are available on a limited basis.

Hours: Monday–Thursday: 10am-6pm

            Friday: 10am-3pm

Location: Room 1440, Main Building

Website: http://www.ccc.edu/colleges/truman/departments/Pages/AdvancementCenter.aspx
Front Desk: 773-907-4785

Kayley Steuber, Coordinator

Office: 773-907-4044

ksteuber@ccc.edu

**Reading Center**

The Reading Center assists students with reading, including comprehension, vocabulary, literary and rhetorical analysis, and research. Offers an open space with computers to study with tutoring support, and 50-minute-long 1-on-1 appointments. Students can make appointments through GradesFirst, at our front desk, by phone, or by walking-in.

Hours: Monday–Thursday: 9am-7pm

            Friday & Saturday: 10am-3pm

Location: Room 1220B, Main Building

Website: http://www.ccc.edu/colleges/truman/departments/Pages/Reading-Center.aspx

Contact: 773-907-6827

Jess Mahoney, Coordinator

jmahoney6@ccc.edu

**Writing Center**

We help with any writing assignment for any credit class (primarily English) as well as with resumes, cover letters, and personal statements. We offer 50-minute-long one-on-one appointments and can help with topics such as thesis statements, essay planning, and a variety of grammar issues. Students can make appointments on GradesFirst, by phone, or at our front desk. We also offer drop-in tutoring for quick questions—no appointment needed!

Hours: Monday – Thursday: 9am-7pm

            Friday & Saturday: 10am-3pm

Location: Room 1435, Main Building

Website: http://www.ccc.edu/colleges/truman/departments/Pages/Writing-Center.aspx
Contact: 773-907-4387
Toby Bengelsdorf, Writing Center Coordinator
tbengelsdorf@ccc.edu

**TRiO Student Support Services**

For low-income students, first generation college students, or students with disabilities who need academic support. Main Building Room 1435, (773) 907-4797. Registration is required at the start of each semester.

**The Wellness Center**

Located in room 1946 in the Main Building.   Current hours:  Monday-Thursday 9am-5pm, Friday 9am-12pm, and later appointments available until 7 pm at least 2 evenings each week.  Contact: (773) 907-4786 for an appointment or information.  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.