

COLLIN COLLEGE COURSE SYLLABUS

COURSE INFORMATION

Course Number: MATH 0406

Course Title: Introductory Algebra

Course Description: With an emphasis on developing critical thinking skills, a study of arithmetic operations with rational numbers, an introduction to algebraic vocabulary, concepts, and notation, and geometric properties, functions, linear equations, systems of linear equations, polynomial expressions, and quadratic expressions and equations Lab Included

Course Credit Hours: 4

Lecture Hours: 3

Lab Hours: 3

Placement Assessment: Placement in MATH 0406 Consult the Testing Center Director if you have questions about an assessment level.

Prerequisite: TSI placement in Math 0406.

Student Learning Outcomes:

Upon successful completion of this course, students will:

1. Identify, classify, graph, and develop effective mathematical strategies with rational numbers to apply to real world situations
2. Solve a linear equation in one variable with three or more variable terms using multiple algebraic skills.
3. Identify, graph, find the domain and range of, and evaluate a function.
4. Solve a system of two linear equations graphically and algebraically, and interpret the solution in the context of an application.
5. Use factoring strategies to solve a quadratic equation.
6. Set up and solve an application with an appropriate proportion, or linear, quadratic, or system of linear equations.

Withdrawal Policy: “See the current *Collin Registration Guide* for the last day to withdraw.”

Collin College Academic Policies: “See the current *Collin Student Handbook*.”

Americans with Disabilities Act: Collin College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal opportunity. It is the student’s responsibility to contact the ACCESS office, SCC-G200 or 972.881.5898 (V/TTD: 972.881.5950) to arrange for appropriate accommodations. See the current *Collin Student Handbook* for additional information.

INSTRUCTOR INFORMATION

Instructor's Name: Marie Kunz

Office Number: B-342

Office Hours: TTH 9-10 or by appointment

Email: mkunz@collin.edu

I check my email daily Monday through Friday.

In case of Emergency: B-122 F 214.491.6270

Class Information: 229428 Math 0406.C02

Section Number: C02

Meeting Times: TTH 10:00 – 12:45

Meeting Location: B-206B

Administrative Withdrawal: Participation in class is an essential requirement of this course. Maintain contact with your professor if you are not able to attend class or complete an assignment on time. If you miss more than 20% of the meetings of a Developmental Education class between the beginning of class and the college withdrawal date, you may be administratively withdrawn from this class. Administrative withdrawal may have academic, financial, financial aid, and visa implications. It will count toward Collin's Repeat Policy and the 27-hour limitation on Developmental Education courses. Administrative withdrawal will take place after the full refund period, and if you are administratively withdrawn from the course you will not be eligible for a tuition refund. If you have questions about the administrative withdrawal policy, please contact your professor.

College Repeat Policy: Developmental courses may be taken for a combined total of no more than 27 credit hours. In addition, a student may repeat this course only once after receiving a grade, including W. If you drop this class before census day, it will not count against you.

Course Resources: The college provides group tutoring and a Math Lab at no charge at each campus to support student success in this class. Students are required to purchase a software license for use in this class.

Textbook:

ISBN book bundle #1256105589, which includes: Beginning & Intermediate Algebra (Custom Edition for Collin College), 4e, by Martin-Gay; Student Solution Manual, and MyMathLab Access Code. If you purchase a used textbook, you will still need a MyMathLab access code. The cost of this code plus your textbook may be more than the cost of a new textbook bundle. Supplemental material from Pre-Algebra, 6e by Martin-Gay will be available as PDF files in MyMathLab.

Supplies: A graphing calculator is required and the TI 83, TI 83 Plus, TI 84 or Nspire CX is preferred. Calculators with a computer algebra system (CAS) will not be permitted on exams, unless prior approval is obtained from the instructor. Bring pencil, paper, graphing calculator, handouts, reviews, and any other items you are asked to bring to class.

Attendance Policy: Students are responsible for all material and assignments for a missed class.

Electronic Devices Policy: As per Section 6.1 Academic Etiquette and the College Experience (pg. 147, paragraph 3) of the *Collin Student Handbook* with the exception of a calculator, all electronic devices are to be switched off during class and stored out of sight during class, unless an exception is obtained from the instructor in advance. If you receive an emergency text or phone call, leave the class to take the text or phone call. After returning to class, continue to take notes and participate. If you must leave, please leave quietly and send me an email stating why you left.

Course Requirements: Attend class as scheduled and complete the required tests, lab assignments, and final examination, and any other assignments required by the instructor.

Method of Evaluation: Only AD, BD, CD, FD or I can be awarded in this class. **A grade of DD will never be awarded.**

The **Grading Scale** will be: AD: 627 to 700; BD: 557 – 626 CD: 487-556; FD: 0-486

Tests – There will be 5 tests given (not including the final exam). Each test will be worth 100 points. The four best test grades will count for the final grade. There will be no make-up tests. If you miss a test, the test grade will be a zero. All tests will be given in class. See schedule below.

Lab exercises – Students will complete Lab Quizzes on the MyLab website and have four Lab Quizzes that will be on paper. The Lab Quiz grade is worth 100 points. I will drop four Lab Quiz grades. The ten best Lab Quiz Grades will count. The URL, instructions for enrolling, and the required course ID will be provided in a separate document. The Final Exam Review will count as a Lab Quiz. Every Lab Quiz will be due on Wednesday beginning January 28. See Schedule below.

Homework – Homework will be worth 100 points. The homework can be done EITHER online using the MyMathLab website or using the book. The homework problems from the book are found at the end of this syllabus. The online homework will be due at midnight on the day of the test. The homework from the book will be due at class on the test day.

Final exam – The Final Exam will count 100 points. A comprehensive departmental final exam is REQUIRED for all students at the end of the course (NO EXCEPTIONS). If the exam is not taken, a zero will be recorded. No other grade can replace the final exam. The Final Exam is in class and on the date set by Collin College.

Standards for Instructor Response and Availability: Emails will be returned within 48 hours. The Final Average will be posted in MyMathLab. Grades are earned, not given.

Notes: (1) The instructor reserves the right to make changes to this syllabus during the semester. Changes will be provided in writing during class hours.

(2) Please see: <http://www.collin.edu/collegesurvival/> for a listing of available college support resources.

If you are struggling in the class, get help as soon as possible.

If you miss more than 3 days, you may be academically withdrawn.

The Census date is February 2, 2015 and the withdraw date is March 20, 2015.

No eating or drinking in class except for water.

Expectation: Maintaining a positive learning environment

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Creating Opportunities for Learning

As your instructor, it is my responsibility to present learning opportunities through the course syllabus, lectures, labs, in-class and out-of-class exercises and assignments.

It is your responsibility to do the learning by completing the readings, by attending class and by participating in the class discussions and assessment/lab exercises.

Tracking Your Success at Learning

Your instructor will conduct quizzes, exams and assessments that you can use to determine how successful you are at achieving the course learning outcomes (mastery of course content and skills) outlined in the syllabus.

If you find you are not mastering the material and skills, you are encouraged to reflect on how you study and prepare for each class. Your instructor welcomes a dialogue on what you discover and may be able to assist you in finding resources on campus that will improve your performance.

Tentative Course Calendar

The course calendar is on the next page.

Tentative Course Calendar:

Week	Sections (PA: Pre-Algebra; BA: Beginning and Intermediate Algebra, Martin-Gay)	0406 Lab Quiz Due Date
1/20	Syllabus and 1.2 BA Sets of Real Numbers; 9.1 BA Intersection and Union of 2 or more sets; Venn Diagram Supplement	Register My Math Lab
1/22	4.3 PA Multiply and Divide Fractions 4.4 PA Least Common Multiple; Add and Subtract Fractions with Denominators 4.5 PA Add and Subtract Fractions with Unlike Denominators	
1/27	1.4 BA Base and Exponent; Order of Operations 1.8 BA Properties of Real Numbers	Lab 1 (1.2, 1.4, 1.8, 4.3, 4.4, 4.5)
1/29	9.2 PA Perimeter and Circumference 9.3 PA Area	
2/3	6.4 PA Pythagorean Theorem and Square Roots Review for Test 1	Lab 2 (9.2, 9.3, 6.4)
2/5	Test 1 in Class	Labs 1 and 2 Due
2/10	6.1 PA Ratios and Fractions 6.2 PA Proportions	
2/12	2.1 BA Simplifying Algebraic Expressions 2.2 BA The Addition and Multiplication Properties of Equality	Lab 3(6.1, 6.2, 2.1, 2.2)
2/17	2.3 BA Solving Linear Equations 2.4 BA Introduction to Problem Solving 2.5 BA Formulas and Problem Solving	
2/19	7.2 PA Solving Percentage Problems with Equations 7.3 PA Solving Percentage Problems with Proportions	
2/24	7.4 PA Applications of Percentages 2.8 BA and Supplement – Solving Linear Inequalities and Review/Test 2	Lab 4 (2.3, 2.4, 2.5, 2.6, 2.8, 7.2, 7.3, 7.4)
2/26	Test 2 in Class	Lab 3 and 4 Due
3/3	3.1 BA Rectangular Coordinate Systems 3.2 BA Graphing Linear Equations/Verify with Calculator 3.3 BA Graph using Intercepts; Horizontal and Vertical Lines	
3/5	3.4 BA Slope – Intercept form of a line 3.5 BA Equations of Lines	Lab 5 (3.1, 3.2, 3.3, 3.4, 3.5)

3/17	3.6 BA Functions 8.2 BA Function Notation and Finding Function Values	
3/19	4.1 BA Solving Systems of Linear Equations by Graphing 4.2 BA Solving Systems of Linear Equations by Substitution	
3/24	4.3 BA Solving Systems of Linear Equations by Addition 4.5 BA Problem Solving with Systems of Equations	Lab 6 (3.6, 8.2, 4.1, 4.2, 4.3, 4.5)
3/26	Review	
3/31	Test 3 In Class	Lab 5 and 6 Due
4/2	5.1 BA Exponents and 5.2 BA Polynomial Functions and Adding and Subtracting Polynomials	
4/7	5.3 BA Multiplying Polynomials 5.4 BA Special Products	Lab 7 (5.1, 5.2, 5.3)
4/9	5.5 BA Negative Exponents and Scientific Notation 5.6 BA Dividing Polynomials	Lab 8 (5.4, 5.5, 5.6)
4/14	Review Test 4	
4/16	Test 4 In Class	Lab 7 and 8 Due
4/21	6.1 BA The Greatest Common Factor and Factoring by Grouping and 6.2 BA Factoring Trinomials of the Form $x^2 + bx + c$ 6.5 BA Factoring Binomials	Lab 9 (6.1, 6.2, 6.5)
4/23	6.6 BA Solving Quadratics by Factoring 6.7 BA Quadratic Equations and Problem Solving 11.6 BA Find the Vertex of a Parabola, Minimum and Maximum Value	Lab 10(6.6, 6.7, 11.6)
4/28	Review	
4/30	Test 5 In Class	Lab 9 and 10 Due
5/6	Review for Final Exam	
5/8	Review for Final Exam	
<u>TUES</u> <u>05/12</u>	<u>10 am – 12 noon. FINAL EXAM In Class</u> <u>Bring Bluebook, Scantron, Pencil, and Calculator</u>	
	HAPPY SUMMER!	

**MATH 0406 PREALGEBRA
COURSE OBJECTIVES**

Upon successful completion of this course, the student will
1. Identify, classify, graph, and develop effective mathematical strategies with rational numbers to apply to real world situations.
Order and compare real numbers.
Find the Least Common Multiple of two or more numbers.
Simplify, add, subtract, multiply, and divide rational numbers.
Simplify numerical expressions containing square roots of perfect squares.
Given a set of numbers, classify each as counting, whole, an integer, rational, irrational, and real.
Given two or more sets of numbers, find the intersection of the sets.
Given two or more sets of numbers, find the union of the sets.
Draw a Venn diagram representing the solution of the intersection and union of two or three sets of numbers.
Identify and use the commutative, associative, distributive, identity, and inverse properties of real numbers.
Simplify an arithmetic expression using the order of operations.
Identify the base and exponent of an exponential expression.
Write a decimal in scientific notation and convert a number in scientific notation to decimal form.
Select the appropriate arithmetic operation(s) to apply to a real world situation.
2. Differentiate and apply a concept used to determine an exact or approximate value for perimeter, area, circumference, and length of a side of a right triangle.
Apply the Pythagorean Theorem.
Find the perimeter and area of rectangles and triangles.
Find the circumference and area of circles.
Find the missing length in a right triangle.
3. Solve a linear equation in one variable.
Evaluate an algebraic expression.
Simplify an algebraic expression.
Translate an English phrase into an algebraic expression.
Solve a linear equation in one variable.
Solve a linear equation requiring clearing of fractions.
Solve a linear equation requiring clearing of decimals.
Solve a linear equation with variables on both sides of the equation.
Solve a literal equation for a specified variable.
Solve an application problem involving a linear equation in one variable.
Solve a linear inequality in one variable. Express the solution (i) as a graph, (ii) in set-builder notation, and (iii) in interval notation.
4. Identify, graph, find the domain and range of, and evaluate a function.
Plot an ordered pair on the rectangular coordinate system.

Upon successful completion of this course, the student will
Graph a linear equation on the rectangular coordinate system and verify using a graphing calculator.
Graph a vertical and a horizontal line.
Determine the x- and y-intercepts (if appropriate) of a line given an equation, a graph, or a table.
Find the slope of a line given: (i) two points on the line, (ii) an equation of the line, (iii) a table of values, or (iv) a graph.
Write an equation in slope-intercept form, if applicable, given a linear equation.
Determine whether a set of points, an equation, or a graph represents a function.
Identify the domain and range from a graph in interval notation.
Evaluate a function for a specified value.
Identify a function value from a graph and interpret its meaning.
Find the vertex of a parabola given a quadratic written in general form ($ax^2 + bx + c = 0$).
Identify the minimum or maximum value of a parabola.
5. Solve a system of two linear equations and interpret the solution graphically, algebraically, and in the context of the information provided, if necessary.
Find an ordered pair solution for a specified linear equation in two variables and verify using the TABLE feature of a graphing calculator.
Solve a system of linear equations in two variables by: (i) graphing manually and with a graphing calculator, (ii) substitution, and (iii) elimination
Write a system of linear equations in two variables describing an application problem, solve the system, and interpret the solution.
Determine whether two equations represent parallel lines, perpendicular lines, or neither.
6. Use factoring strategies to solve a quadratic equation.
Simplify an expression, which contains an exponent that is an integer.
Identify a coefficient, term, factor, constant, and the degree of a specified polynomial.
Classify a polynomial as a monomial, binomial, or trinomial as appropriate.
Add, subtract, and multiply two polynomials.
Simplify a polynomial in two or more variables.
Divide a polynomial by a monomial or a binomial.
Factor a polynomial by finding the greatest common factor.
Factor a polynomial by grouping.
Factor a trinomial in the form $ax^2 + bx + c$, where $a \neq 0, a = 1$.
Factor the difference of two squares
Find the decimal approximation of a square root using a calculator.
Solve a quadratic equation by factoring.
Solve an application problem involving a quadratic equation.
7. Set up and solve an application with an appropriate proportion, or linear, quadratic, or system of linear equations.
Write ratios as fractions.
Decide if proportions are true using diagonal products.
Solve proportions. Translate percent problems to proportions.
Solve percent problems. Solve application problems involving numbers.
Solve percent applications.
Solve an application problem involving a quadratic equation.
Solve an application problem requiring the Pythagorean Theorem.

Math 0406 HOMEWORK ASSIGNMENTS

Text: **Beginning and Intermediate Algebra**, 4th Edition, Elayn Martin – Gay(**BA**)
Prealgebra, 6th Edition, Elayn Martin – Gay(**PA**)

Section	Page(s)	Problems
1.2(BA)	15	VRC (Vocabulary & Readiness Check) 5, VRC 7, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59
9.1(BA)	546	1, 3, 5, 7, 9, 11
4.3 (PA)	241	5, 7, 15, 27, 31, 33, 37, 41, 51
4.4 (PA)	255	7, 9, 15, 17, 27, 29, 31, 37, 39
4.5 (PA)	266	7, 9, 11, 15, 17, 19, 21, 25, 31, 43
1.4(BA)	32	3, 11, 17, 19, 33, 37, 49, 61, 73, 79, 81, 83, 95, 97, (PA 1.7) 43
1.8(BA)	63	33, 35, 43, 45, 49, 51, 55, 61, 63, 65, 67, 71, 73, 77, 79, 81, 83
9.2 (PA)	610	1, 5, 9, 19, 21, 35, 37, 43
9.3 (PA)	624	1, 3, 5, 7, 25, 43, 57
6.4 (PA)	436	VRC 1, VRC 3, 1, 7, 13, 31, 35, 39, 43, 53
6.1 (PA)	409	7, 9, 23, 25, 27
6.2 (PA)	419	VRC 1, 29, 39, 45, 47, 51
2.1(BA)	79	3, 11, 17, 25, 31, 37, 41, 49, 51, 59, 67, 73, 83, 85, 87
2.2(BA)	89	3, 11, 21, 23, 31, 45, 65, 75, 79, 81, 91
2.3(BA)	98	7, 9, 15, 31, 37, 47, 53, 55, 73, 77
2.4(BA)	107	3, 5, 9, 11, 25, 29, 35, 43
2.5(BA)	118	17, 19, 21, 23, 25, 27
7.2 (PA)	475	VRC 1, 1, 3, 5, 7, 25, 33, 35, 37
7.3 (PA)	483	VRC 1, 1, 7, 23, 29
7.4 (PA)	493	3, 5, 7, 11, 23, 25
2.8(BA)	149	1, 3, 5, 13, 15, 45, 53, 55, 57, 63, 69
3.1(BA)	176	17, 19, 31, 37, 39, 45, 49, 63
3.2(BA)	187	1, 7, 9, 15, 21, 25, 27, 29, 31, 35, 47
3.3(BA)	196	1, 3, 17, 23, 25, 29, 31, 49, 51, 53
3.4(BA)	209	1, 3, 7, 9, 11, 13, 17, 37, 39, 41, 43, 45, 53, 55, 57, 59, 89
3.5(BA)	220	13, 15, 19
3.6(BA)	230	3, 5, 7, 9, 13, 15, 23, 25, 41, 63, 65, 67, 73, 77
8.2(BA)	516	1, 3, 5, 7, 11, 13, 29, 33, 35, 37
4.1(BA)	252	3, 7, 9, 11, 13, 21, 23, 25, 27, 29, 31, 35, 39, 41, 45, 73
4.2(BA)	259	1, 3, 5, 7, 17, 19, 35, 53
4.3(BA)	265	1, 3, 11, 13, 17, 25, 31, 43, 47, 49
4.5(BA)	285	7, 9, 11, 15, 17, 19, 21, 25, 31, 33, 43
5.1(BA)	309	5, 7, 9, 11, 19, 25, 31, 33, 35, 41, 43, 45, 47, 51, 55, 57, 63, 65, 71, 73, 75, 85, 101, 111, 113, 119
5.2(BA)	321	1, 3, 15, 17, 25, 27, 31, 37, 39, 41, 43, 47, 57, 105
5.3(BA)	327	5, 9, 15, 17, 21, 23, 25, 29, 31, 33, 39, 61, 71, 81
5.4(BA)	334	11, 13, 17, 21, 25, 27, 57, 61, 69, 91
5.5(BA)	343	1, 3, 5, 7, 11, 13, 25, 31, 35, 37, 69, 71, 73, 75, 77, 81, 83, 85, 87, 115, 119

5.6(BA)	350	1, 3, 7, 9, 13, 17, 33, 35, 43, 55, 73
6.1(BA)	373	1, 7, 15, 19, 25, 27, 29, 31, 33, 35, 43, 45, 49, 51, 53, 55, 59, 61, 63, 65, 67, 69, 71, 99, 101
6.2(BA)	380	1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 23, 25, 27, 33, 35, 39, 41, 43, 45, 51, 53, 55
6.3(BA)	388	33, 39, 41, 45, 59
6.4(BA)	393	43
6.5(BA)	400	1, 3, 5, 7, 15, 35, 37, 41
6.6(BA)	412	1, 3, 5, 7, 9, 11, 13, 19, 21, 23, 25, 27, 29, 33, 49, 51
6.7(BA)	420	15, 21, 23, 25, 37
11.6(BA)	694	1, 3, 5, 7, 9, 11, 13, 15

MyLab & Mastering

Student Registration Instructions

To register for **Spring2015Math0406.C02**

1. Go to pearsonmylabandmastering.com.
2. Under Register, click **Student**.
3. Enter your instructor's course ID: **kunz97423**, and click **Continue**.
4. Sign in with an existing Pearson account or create an account:
 - If you have used a Pearson website (for example, MyITLab, Mastering, MyMathLab, or MyPsychLab), enter your Pearson username and password. Click **Sign in**.
 - If you do not have a Pearson account, click **Create**. Write down your new Pearson username and password to help you remember them.
5. Select an option to access your instructor's online course:
 - Use the access code that came with your textbook or that you purchased separately from the bookstore.
 - Buy access using a credit card or PayPal.
 - If available, get 14 days of temporary access. (Look for a link near the bottom of the page.)
6. Click **Go To Your Course** on the Confirmation page. Under MyLab & Mastering New Design on the left, click **Spring2015Math0406.C02** to start your work.

Retaking or continuing a course?

If you are retaking this course or enrolling in another course with the same book, be sure to use your existing Pearson username and password. You will not need to pay again.

To sign in later:

1. Go to pearsonmylabandmastering.com.
2. Click **Sign in**.
3. Enter your Pearson account username and password. Click **Sign in**.
4. Under MyLab & Mastering New Design on the left, click **Spring2015Math0406.C02** to start your work.

Additional Information

See **Students > Get Started** on the website for detailed instructions on registering with an access code, credit card, PayPal, or temporary access.