

COLLIN COLLEGE COURSE SYLLABUS

Course Information

Course Number: MATH 0305

Course Title: Beginning Algebra

Course Description: With an emphasis on developing critical thinking skills, a study of algebraic vocabulary, concepts, and notation, functions, linear equations, systems of linear equations, polynomial expressions, and quadratic expressions and equations. Lab included.

Course Credit Hours:

Lecture Hours: 3 Credit Hours

Lab Hours: 1

Placement Assessment: Placement in MATH 0305. Consult the Testing Center Director if you have questions about an assessment level OR Successful completion of Mathematics 0302.

Prerequisite: MATH 0302, or meet TSI standard for MATH 0305; or equivalent.

Student Learning Outcomes:

Upon successful completion of this course, students will:

1. Identify, classify, graph, and use properties of operations on real numbers.
2. Solve a linear equation in one variable with three or more variable terms using multiple algebra skills.
3. Identify, graph, and evaluate a function.
4. Solve a system of two linear equations and interpret the solution graphically and algebraically.
5. Perform an operation with polynomials.
6. Factor a polynomial and solve a quadratic equation by factoring.
7. Solve an application problem involving an equation with a polynomial.

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: Randy L Collins

Office Number: PRC J-157

Office Hours: Monday / Wednesday / Friday 08:00am – 09:00am
Tuesday / Thursday 11:30am – 1:00pm

Phone Number: 972-377-1034 **In case of emergency, contact the Developmental Education Office (SCC K102) at 972-881-5720.**

Email: rlcollins@collin.edu I check my email on a regular basis; however during non business hours or weekends it could take 24-36 hours to respond to your email.

Class Information:

Section Number: P08

Meeting Times: MW 8:30pm-9:45pm

Meeting Location: LH 157

Important Dates to Understand:

Census Date (February 1, 2016) - If you drop before the census date, you **will not** receive a “W”. The course will not appear on your transcript.

Last Withdrawal Date (March 18, 2016) - If you drop after the Census Date but before the **Last Withdrawal Date**, you **will** receive a “W”.

After the **Last Withdrawal Date**, you **CANNOT** drop the class. You will receive the grade you earn in the class (AD,BD,CD or FD).

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.

Scholastic Dishonesty: For a full description of scholastic dishonesty see the student code of conduct in the Student Handbook. Students found responsible for scholastic dishonesty may have a grade of 0 assigned or a course grade of FD.

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. This software has a web address of:
<http://pearsonmylabandmastering.com/>.

Textbook:

The MyMathLab (MML) Integrated Course Sequence code (**ISBN # 0321757378**) is **required**. The code can be purchased online or through the bookstore. The MyMathLab (MML) Integrated Course Sequence code includes access to the eText version of Bittinger and Beecher's *Algebra Foundations: Basic Math, Introductory and Intermediate Algebra*. The code is good for the entire developmental math sequence.

There are **optional** items in the bookstore if students choose to purchase them:

- Bittinger and Beecher *Algebra Foundations: Basic Math, Introductory and Intermediate Algebra* (book with MML code) ISBN # 0133862321*
- Custom Textbook, Bittinger *Algebra Foundations, Custom for Collin College* ISBN # 1323151338l
- Custom Workbook, Bittinger *Algebra Foundations Guided Notes, Custom for Collin College* ISBN # 132316121X

*If you choose to purchase the custom textbook after purchasing the MyMathLab (MML) Integrated Course Sequence code you will be paying more than the cost of the book with MML code (ISBN # 0133862321).

Supplies: A graphing calculator is required and the TI 83, TI 83 Plus, or TI 84 is preferred. Calculators with a computer algebra system (CAS) will not be permitted on exams, unless prior approval is obtained from the instructor.

Attendance Policy: Attendance is required and will count as 5% of your course grade. 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, unless an exception is obtained from the instructor in advance.

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: 90 – 100%; BD: 80 – 89%; CD: 70 – 79%; FD: 0 – 69%.

TESTS – There will be 4 unit tests, which count **55%** of your final grade. You must complete the tests by the due date listed on the course calendar. Each test must be taken at the Testing Center on any of our campuses. The testing centers have the password. **You must always arrive at the testing center at least one hour before the center is scheduled to close.** You must have a student ID in order to take the tests. Please note you will need to get the new student ID card.

The Testing centers are located at all campuses:

Spring Creek Campus, Plano: Room: J232 Phone: (972) 881-5922

Preston Ridge Campus, Frisco: Room F209 Phone: (972) 377-1523

Central Park Campus, McKinney: Room A109 Phone: (972) 548-6849

Testing Center Hours of Operation:

- Monday – Thursday 8:00am – 9:00pm
- Friday 8:00am – 3:00pm
- Saturday 8:00am – 5:00pm

TEST/MAKEUP POLICY: If unavoidable circumstances cause you to miss a test, the Final Exam grade will be used twice to replace the missed test grade, provided you provide documentation as to the reason why you missed the test. The instructor reserves the right to deny cases where the reason is not an extreme event or insufficient documentation is submitted.

LAB EXERCISES – There are 10 “lab quizzes” required in this class. The lab quizzes and practice labs use the MyMathLab Internet-based software. **Practice labs** are available for **unlimited** practice. The graded labs are listed as lab quizzes and **only one (1) submitted attempt is allowed.** Remember to submit the lab quiz when finished. Graded labs are always due by **11:59 p.m.** of the day stated in the course calendar. A minimum grade of 70 on the Practice Labs is required prior to taking the lab quizzes. The grade average of the ten lab quiz assignments will count as 10% of the final grade.

No lab grades will be dropped.

HOMEWORK: The grade average of the homework assignments will count as 10% of the final grade. **There is no limit for the number of times the homework and practice labs can be done. All homework must be completed by 11:59 pm on the day they are due as stated in MyMathLab.**

ACTIVITIES: Class activities will count as 05% of the final grade.

FINAL EXAM - 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 will count as **15%** of the final grade.

Delivery Method of Feedback and/or Graded Material: All grades are posted in MyMathLab.

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) With the exception of a calculator, all electronic devices are to be switched off during class, unless an exception is obtained from the instructor in advance.

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

Tentative Course Calendar
Due dates of Homework are listed in MyMathLab.

Weeks		Labs /Homework
<u>Week 1</u> Jan 19 and Jan 21	Review Syllabus; Highlight new DE Administrative Withdrawal policy; 10.2 Real Numbers 18.2 Intersections, and Unions 10.7 Properties of Real Numbers 1.9 Exponential Notation and Order of Operations	Lab 1 (1.4,1.9,10.4, 10.7, 18.2) Due January 25th Homework Due January 25th
<u>Week 2</u> Jan 26 and Jan 28	10.1 Introduction to Algebra 10.8 Simplifying Expressions; Order of Operations 11.1 Solving Equations: The Addition Principle 11.2 Solving Equations: The Multiplication Principle	Lab 2(10.1,10.2, 11.1,11.2) Due February 1st Homework Due February 1st
<u>Week 3</u> Feb 02 and Feb 04	11.3 Using the Principles Together Solving Linear Equations 11.4 Formulas 11.6 Applications and Problem Solving	Lab 3(11.3,11.4,11.6) Due February 08th Homework Due February 08th
<u>Week 4</u> Feb 09and Feb 11	<ul style="list-style-type: none"> • Practice Exam 1 (Must Complete by February 09th) • Test 1 (Sections 1.4, 1.9, 10.1, 10.2, 10.4, 10.7, 10.8, 11.1 – 11.4, 11.6, 18.2) (Must Complete by February 09th) 18.1 Inequalities and Interval Notation 11.7 Solving Inequalities	Homework Due February 15th
<u>Week 5</u> Feb 16 and Feb 18	18.2 Compound Inequalities 12.1 Introduction to Graphing 12.2 Graphing Linear Equations 12.3 More with Graphing and Intercepts	Lab 4 (11.7,12.1,12.2, 18.1,18.2) Due February 22nd Homework Due Feb 22nd

Week 6 Feb 23 and Feb 25	12.4 Slope and Applications 16.3 Linear Equations: Slope Intercept Form 16.4 Parallel and Perpendicular Lines 16.5 Finding Equations of Lines	Lab 5 (12.3,12.4,16.3, 16.4,16.5) Due February 29th Homework Due February 29th
Week 7 Mar 01 and Mar 03	<ul style="list-style-type: none"> • Practice Exam 2 (Must Complete by March 05th) • Test 2 (Sections 11.7, 12.1 – 12.4, , 16.3 – 16.5, 18.1, 18.2) (Must be Completed by March 05th) 16.1 Functions and Graphs 16.2 Finding Domain and Range 17.1 Systems of Equations in Two Variables	Homework Due March 14th
Spring Break March 7 - 13		
Week 8 Mar 15 and Mar 17	17.2 Solving by Substitution 17.3 Solving by Elimination 17.4 Solving Applied Problems: Two Equations	Lab 6 (16.1,16.2,17.1, 17.2) Due March 21st Homework Due March 21st
Week 9 Mar 22 and Mar 24	13.1 Integers as Exponents 13.2 Exponents 13.3 Introduction to Polynomials 13.4 Addition and Subtraction of Polynomials	Lab 7 (17.3,17.4,13.1, 13.2) Due March 28th Homework Due March 28th
Week 10 Mar 29 and Mar 31	13.5 Multiplication of Polynomials 13.6 Special Products 13.7 Operations with Polynomials in Several Variables 13.8 Division of Polynomials	Lab 8 (13.3,13.4,13.5, 13.6,13.7,13.8) Due April 04th Homework Due April 04th
Week 11 Apr 05 and Apr 07	<ul style="list-style-type: none"> • Practice Exam 3 (Must Complete by April 05th) • Test 3 (Sections 13.1 – 13.8, 16.1 - 16.2, 17.1 – 17.4) (Must be completed by April 05th) 14.1 Introduction to Factoring 14.2 Factoring Trinomials of the Type $x^2 + bx + c$	Homework Due April 11th
Week 12 Apr 12 and Apr 14	14.3 Factoring Trinomials of the Form $ax^2 + bx + c, a \neq 1$: The FOIL Method 14.4 Factoring Trinomials of the Form $ax^2 + bx + c, a \neq 1$: The ac-Method	Homework Due April 18th
Week 13 Apr 19 and Apr 21	14.5 Factoring Differences of Squares 14.8 Solving Quadratic Equations by Factoring	Homework Due April 25th

Week 14 Apr 26 and Apr 28	14.9 Applications of Quadratic Equations 19.7 Applications involving Powers and Roots	Lab 9 (14.1,14.2,14.3, 14.4,14.5,14.8, 14.9) Due May 02nd Homework Due May 02nd
Week 15 May 03 and May 05	<ul style="list-style-type: none"> • Practice Exam 3 (Must Complete by May 03rd) • Test 4 (Sections 14.1 – 14.5, 14.8, 14.9, 19.7) (Must be completed by May 3rd) Review for the Final Exam	
Week 16 May 12 th	FINAL EXAM 8:30am – 10:30am	Lab 10 (1.9,11.4,12.2, 13.2,13.8,14.8, 16.5,17.3,17.4, 18.2) Due May 11th

Due dates of Homework are listed in MyMathLab.

MATH 0305 BEGINNING
ALGEBRA COURSE OBJECTIVES
FALL 2015

Algebra Foundations: Basic Math, Introductory Algebra, and Intermediate Algebra, First Edition

Marvin L. Bittinger, Judith A. Beecher, Barbara L. Johnson

Upon successful completion of this course, students will:	3rd Rev.
1. Identify, classify, graph, and use properties of operations on real numbers.	
Given a set of numbers, classify each as counting, whole, an integer, rational, irrational, and real.	10.2
Given two or more sets of numbers, find the intersection of the sets.	18.2
Given two or more sets of numbers, find the union of the sets.	18.2
Identify and use the commutative, associative, distributive, identity, and inverse properties of real numbers. (Inverse Properties in 10.6 and 10.8)	10.6b, 10.7, 10.8a
2. Solve a linear equation in one variable with three or more variable terms using multiple algebra skills.	
Identify the base and exponent of an exponential expression.	1.9a, 13.1
Simplify an arithmetic expression using the order of operations.	1.9cd, 10.8d
Translate an English phrase into an algebraic expression.	10.1b
Evaluate an algebraic expression.	10.1a
Simplify an algebraic expression.	10.7, 10.8abc
Solve a linear equation in one variable.	11.1, 11.2, 11.3
Solve a literal equation for a specified variable.	11.4
Solve a linear inequality in one variable and express the solution (i) in set-builder notation, (ii) interval notation, and (iii) as a graph.	11.7, 18.1b
Solve a compound linear inequality in one variable and express the solution (i) in set-builder notation, (ii) interval notation, and (iii) as a graph.	18.2
3. Identify, graph, find the domain and range of, and evaluate a function.	
Plot an ordered pair on the rectangular coordinate system.	12.1
Find an ordered pair solution for a specified linear equation in two variables and verify using the TABLE feature of a graphing calculator(P.739).	12.2
Graph a linear equation on the rectangular coordinate system and verify using a graphing calculator.(P. 745)	12.2
Graph a vertical and a horizontal line.	12.3b, 16.4c
Determine the x- and y-intercepts (if appropriate) of a line given an equation, a graph, or a table.	12.3a, 16.4a
Solve a linear equation in one variable using the ZERO and INTERSECT features of the graphing calculator.	Supplement
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.	12.4 Supplement
Write an equation in slope-intercept form, if applicable, given a linear equation.	16.3

Upon successful completion of this course, students will:	3rd Rev.
Write an equation of the line using point slope or slope intercept form given the slope and a point or given two points.	16.5
Determine whether a set of points, an equation, or a graph represents a function.	16.1 Supplement
Identify the domain and range from a graph in interval notation.	16.2, 18.1b
Evaluate a function for a specified value.	16.1
4. Solve a system of two linear equations and interpret the solution graphically, algebraically, and in the context of the information provided, if necessary.	
Solve a system of linear equations in two variables by: (i) graphing manually and with a graphing calculator, (ii) substitution, and (iii) elimination	17.1, 17.2, 17.3
Write a system of linear equations in two variables describing an application, solve the system, and interpret the solution.	17.4
Determine whether two equations represent parallel lines, perpendicular lines, or neither.	16.4d
5. Factor a polynomial and solve a quadratic equation by factoring.	
Simplify an expression, which contains an exponent that is an integer.	13.1, 13.2
Identify a coefficient, term, factor, constant, and the degree of a specified polynomial.	13.1a, 13.3
Classify a polynomial as a monomial, binomial, or trinomial as appropriate.	13.3b
Add, subtract, and multiply two polynomials.	13.4, 13.5, 13.6
Simplify a polynomial in two or more variables.	13.7
Divide a polynomial by a monomial or a binomial.	13.8
Factor a polynomial by finding the greatest common factor.	14.1
Factor a polynomial by grouping.	14.1
Factor a trinomial in the form $ax^2 + bx + c$, where $a \neq 0$, $a = 1$ or a is a common factor.	14.2
Factor a trinomial in the form $ax^2 + bx + c$, where $a \neq 0$, $a \neq 1$	14.3, 14.4
Factor the difference of two squares	14.5
Solve a quadratic equation by factoring.	14.8
6. Set up and solve an application with an appropriate linear, quadratic, or system of linear equations.	
Solve an application involving a linear equation in one variable.	11.6
Solve an application involving a quadratic equation.	14.9
Solve an application requiring the Pythagorean Theorem.	9.6d, 14.9, 19.7
Solve an application requiring a system of equations.	17.4