**21316.201820**

**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 OR successful completion of MATH 0302. (Consult the Testing Center Director if you have questions about an assessment level)

**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 affording equal opportunity. It is the student’s responsibility to contact the ACCESS office to arrange for appropriate accommodations. (CPC: B-335 or 972.548.6816, PRC: F-144 or 972.881.5950, SCC: D-140 or 972.881.5898 (V/TTD: 972.881.5950)) See the current *Collin Student Handbook* for additional information.

**CougarAlert**: When an emergency occurs, the CougarAlert system can send email, text messages and voice messages to students and employees in as little as 90 seconds.

Visit the following website to sign-up! <https://www.collin.edu/cougaralert.html>

INSTRUCTOR INFORMATION

**Instructor’s Name:** *Arlene Bakner*

**Office Number:** SCC J 237

**Office Hours:** Monday, Wednesday 11am-1 pm, Tuesday, Thursday 2:30-3:30 pm, other times by appointment

**Phone Number:** (972) 881 5924

**Email:** [abakner@collin.edu](mailto:abakner@collin.edu) Email messages will be read and responded to Monday, Wednesday 8:30 am-3:45 pm Tuesday, Thursday 8:30 am- 2pm, Friday 8:30 am-12 noon except when in class or attending a meeting.

**Class Information:**

**Section Number:** *Math0305.S03*

**Meeting Times:** *Monday, Wednesday, Friday 10-10:50 am*

**Meeting Location J 109**

**College Repeat Policy:** Texas residents attempting a course more than twice at Collin College are subject to regular tuition plus an additional $50 per semester credit hour. Undergraduate courses attempted at Collin with a graded status of A, B, C, D, F, I, W (withdrawals *after* census), and AU will be evaluated for repeat limits.

Developmental Education (DE) courses are exempt from the additional tuition charge prior to the 27- hour threshold. Students in excess of 27 Developmental Education hours will be assessed the authorized $50 per hour additional tuition.

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. Disciplinary proceedings will be initiated against a student found guilty of scholastic dishonesty. Scholastic dishonesty may involve general scholastic dishonesty, cheating, collusion, scholastic dishonesty conduct through electronic for computerized means. Collin College Dean of Students and/or the instructor will determine appropriate academic penalty.

**Course Resources:** The College provides group tutoring and a Math Lab at no charge on each campus to support student success in this class. The Math Lab locations are below:

Central Park Campus: C220 Phone: 972.548.6896

Preston Ridge Campus: F148 Phone: 972.377.1639

Spring Creek Campus: D203 Phone: 972.881.5921

Please visit [*http://www.collin.edu/collegesurvival/*](http://www.collin.edu/collegesurvival/) for a list of available college support resources.

**Textbook:**

The MyMathLab (MML) Integrated Course Sequence code is **REQUIRED**.

The Barnes & Noble bookstore on each campus provides the following purchasing options:

1. MyMathLab (MML) Integrated Course Sequence code - **ISBN # 9780321757371**
   * This code will include access to the eText version of Bittinger and Beecher’s *Algebra Foundations: Basic Math, Introductory and Intermediate Algebra*.
2. Bittinger and Beecher *Algebra Foundations: Basic Math, Introductory and Intermediate Algebra* - **ISBN # 9780133862324**
   * This is a bundle including the loose leaf textbook and MyMathLab code.

\*\* The MML code available in the bookstore provides full access for all 3 courses in the Developmental Math sequence.

**Supplies:**  A graphing calculator is required. 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. Graphing calculators, to be used during class, may be checked from the Collin Library by using your student ID. Bring to class a graphing calculator, paper or notebook, and a pencil.

**Attendance Policy:** *Attendance is expected every class. Attendance means arriving to class on time and remaining in class for the entire session. If zero absences, zero days of being tardy, zero days of leaving early during each test interval then two points will be added to that test score. “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. 41, paragraph 3) of the *Collin* *Student Handbook* with the exception of a calculator, all electronic devices are to be off during class, unless the instructor provides an exception in advance. If you have an emergency situation then leave the class quietly. Lap top computers and other electronic equipment will not be used in the classroom during class.

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**Course Requirements:** Attend class as scheduled and complete the required tests, lab assignments, and final examination, as well as any other assignments required by the instructor. Assignments are to be completed using My Math Lab designated problems. These problems must be completed on or before midnight (My Math Lab Time) the test day (listed on the schedule) with a 70% or greater in order to receive full credit. Otherwise half credit will be awarded if My Math Lab designated problems are completed after midnight (My Math Lab Time) the test day (listed on the schedule) or if the My Math lab designated problems have a score less than 70% but greater than 0%.

**Method of Evaluation:** Only AD, BD, CD, FD or I can be awarded in this class.

The **Grading Scale** is as follows: AD: 90 – 100%; BD: 80 – 89%; CD: 70 – 79%; FD: 0 - 69%.

**TESTS-55% Four tests will be given. Each test is awarded a percentage grade. There are no make-up tests. The schedule shows the date for each of the four tests.**

**LABS-15% Students will complete 10 Labs on the My Math Lab website. Each lab will have a practice lab, which contains 15 problems.** You must score a 70% on the practice lab before you may access the actual Lab. **Students have unlimited chances to take the practice lab; however, they will have only one chance for the actual lab quiz. Labs 2 through 9 will contain problems from both the current section and previous sections. The Lab Quiz due dates are listed on the schedule on or before midnight (My Math Lab Time) the test day. Each day a Lab Quiz is late five percentage points will be deducted including weekends. The URL, instructions for enrolling, and the required course ID will be provided in a separate document.** There will also be a required Mandatory Advising Lab assigned. This document may be provided in class, but will be available online for printing under the Assignments tab in My Math Lab. The student must meet with an academic advisor to discuss the courses necessary for their degree plan or transfer requirements. Upon completion, the student will be expected to turn in the completed lab with a tentative course plan and advising notes for full credit. **This assignment should be completed within the first 6 weeks of the semester.**

**Homework-10% Assignments are to be completed using My Math Lab designated problems. It is strongly suggested that assignments be completed when assigned. In order to receive full credit these problems must be completed on or before midnight (My Math Lab Time) the test day (listed on the schedule) with a 70% or greater. Otherwise half credit will be awarded in My Math Lab designated problems are completed after midnight (my Math Lab Time) the test day (listed on the schedule) or if a score is less than 70% but greater than 0%.**

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**Final exam- 20%** 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 instructor reserves the right to make changes to this syllabus during the semester. Changes will be provided in writing during class hours.

*You may also wish to consider adding paragraphs, such as the following (you may reword as appropriate), to your syllabus:*

***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**

**Math0305.S03**

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| --- | --- | --- |
| Algebra Foundations, 1st ed by Bittinger/Beecher | | |
| **Weeks** |  | **Labs** |
| **1/17, 1/19** | 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 | Register My Math Lab  Assign Practice Lab 1  (1.4,1.9,10.4,10.7,18.) |
| **1/22, 1/24, 1/26** | 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 11.3 Using the Principles Together Solving Linear Equations | Assign Practice Lab 2  (10.1,10.2,11.1,11.2) |
| **1/29, 1/31** | 11.4 Formulas  11.6 Applications and Problem Solving  **Test 1 Review**  18.1 Inequalities and Interval Notation | Assign Practice Lab 3  (11.3,11.4,11.6) |
| **2/2** | **Test 1 (Chapters 1, 10, 11, 18)** | Lab Quiz 1, Lab Quiz 2, Lab Quiz 3 due |
| **2/5, 2/7, 2/9** | 11.7 Solving Inequalities  18.2 Compound Inequalities  12.1 Introduction to Graphing 12.2 Graphing Linear Equations | Assign Practice Lab 4  (11.7,12.1,12.2,18.1,  18.2) |
| **2/12, 2/14, 2/16** | 12.3 More with Graphing and Intercepts  12.4 Slope and Applications  16.3 Linear Equations: Slope Intercept Form  16.4 Parallel and Perpendicular Lines 16.5 Finding Equations of Lines | Assign Practice Lab 5  (12.3,12.4,16.3,16.4,  16.5) |
| **2/19** | **Test 2 Review**  16.1 Functions and Graphs | Advising Lab Due this week |
| **2/21** | **Test 2 (Chapters 11, 12, 16, 18)** | Lab Quiz 4, Lab Quiz 5 due |
| **2/23** | 16.2 Finding Domain and Range  17.1 Systems of Equations in Two Variables |  |
| **2/26, 2/28, 3/2** | 17.2 Solving by Substitution  17.3 Solving by Elimination  17.4 Solving Applied Problems: Two Equations | Assign Practice Lab 6  (16.1,16.2,17.1,17.2) |
| **3/5, 3/7, 3/9** | 13.1 Integers as Exponents (Use scientific notation on graphing calculator)  13.2 Exponents  13.3 Introduction to Polynomials  13.4 Addition and Subtraction of Polynomials | Assign Practice Lab 7  (17.3,17.4,13.1,13.2) |
| **3/19, 3/21, 3/23** | 13.5 Multiplication of Polynomials  13.6 Special Products  13.7 Operations with Polynomials in Several Variables |  |
| **3/26** | 13.8 Division of Polynomials  **Test 3 Review** | Assign Practice Lab 8  (13.3,13.4,13.5,13.6,  13.7,13.8) |
|  |  |  |
| **3/28** | **Test 3 (Chapter 13, 16, 17)** | Lab Quiz 6, Lab Quiz 7, Lab Quiz 8 due |
| **4/2, 4/4, 4/6** | 14.1 Introduction to Factoring  14.2 Factoring Trinomials of the Type *x*2 + *bx* + *c* 14.3 Factoring Trinomials of the Form a*x*2 + *bx* + *c, a* 1:  The FOIL Method  14.4 Factoring Trinomials of the Form a*x*2 + *bx* + *c, a* 1:  The ac-Method |  |
| **4/9, 4/11, 4/13** | 14.5 Factoring Differences of Squares 14.8 Solving Quadratic Equations by Factoring |  |
| **4/16, 4/18, 4/20** | 14.9 Applications of Quadratic Equations  19.7 Applications involving Powers and Roots | Assign Practice Lab 9  (14.1,14.2,14.3,14.4,  14.5,14.8,14.9) |
| **4/23** | **Test 4 Review** |  |
| **4/25** | **Test 4 (Chapters 14, 19)** | Lab Quiz 9 due |
| **4/27** | **Review Practice Lab 10** | Assign Practice Lab Quiz 10  (1.9,11.4,12.2,13.2,  13.8,14.8,16.5,17.3,  17.4,18.2) |
| **4/30, 5/2,** | **Review for the Final Exam** |  |
| **5/4** | **Review for the Final Exam** | Lab Quiz 10 due |
| **5/7** | **FINAL EXAM Bring a scantron, your own graphing calculator, pencil** |  |

MATH 0305 BEGINNING ALGEBRA COURSE OBJECTIVES FALL 2016

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

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

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| --- | --- |
| Upon successful completion of this course, students will: | Textbook Reference |
| 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 |
| Convert fractions to decimals | 4.5 |
| 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 |
| 1. **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 |
| 1. **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 |
| 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 |
| 1. **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 |
| 1. **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 |
| Use scientific notation on a graphing calculator. (Page 798) | 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* ≠ 0, *a* = 1 or *a* is a common factor. | 14.2 |
| Factor a trinomial in the form *ax*2 + *bx* + *c,* where *a* ≠ 0, *a* ≠ 1 | 14.3, 14.4 |
| Factor the difference of two squares | 14.5 |
| Solve a quadratic equation by factoring. | 14.8 |
| 1. **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 |