CCBC

Spring 2023

School of Mathematics and Science

Mathematics Department

Pre-Algebra, MATH 081, Section D2A, Course Reference Number (CRN) 23668

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*Senate Policy #20-12 approved: June 2, 2020*

# **Course Description and Pre-/Co-requisites**

**Description: MATH 081 – Pre-Algebra begins with a review of integers and rational numbers and then proceeds to the study of algebraic expressions, first degree equations and inequalities in one variable, formulas, proportions, and percent. Another major focus is linear equations, which covers graphing points, determining slope, writing linear equations, and graphing lines. Successful participation in and completion of this course requires that student skills be at the secondary level.**

**Prerequisite: ASE MATH or a satisfactory score on the mathematics placement test.**

**Co-requisite: ACLT 052 or ESOL 044**

# Basic Course Information

* 1. Instructor’s name: Anthony Calise
  2. Instructor's office room number: Dundalk, Roy N. Staten Building 211

Phone number: 410-307-9595

Email address: acalise@ccbcmd.edu

* 1. Instructor's office hours: Tuesday 4:45 – 5:45 in classroom
  2. Response time and form of preferred communication: I should respond to all messages within 24hours, if you do not get a response please forward the message again.
  3. Department or school phone number(s): Dundalk 443-840-3292
  4. Class meeting day(s), time(s), and location(s):

Instruction is offered on-campus during the scheduled days and times indicated below. A physical presence on-campus is required.

Tuesday 5:45 – 840pm, Dundalk Campus, Roy N. Staten Bldg. Rm 211

* 1. Statement of student out-of-class work expectations: This is a three-credit/billable hour course offered over 14 weeks. You are expected to spend at least 6 hours of work per week outside of class time including reading, course preparation, homework, studying, etc.
  2. Testing center/remote proctoring requirements: Not Applicable
  3. Materials:

Textbook: Students can access the [MATH 081 Pre-Algebra Textbook, Fall 2017 Edition](https://www.ccbcmd.edu/Programs-and-Courses/Schools-and-Academic-Departments/School-of-Mathematics-and-Science/Mathematics/MATH-081-Textbook.aspx) online for free through Brightspace or through CCBC’s website. A printed copy of the textbook can be purchased from CCBC’s bookstore.

Calculator: Calculator use in this course is permitted during class and assessments, but not required. Basic, scientific, and graphing calculators are suitable. Calculators with advanced capabilities, such as the TI-89 or TI-92, are not permitted during examinations. Cell-phone calculators, or other devices with internet capabilities, are also prohibited. When completing assessments, all algebraic steps must be shown to receive full credit.

* 1. Technical Requirements:

To learn on-site at CCBC, you will need:

* Regular access to a reliable computer desktop, laptop, netbook, etc.
* A stable broadband Internet connection.
* A general understanding of the Brightspace learning management system.

For the full list of technical requirements, check [CCBC’s Online Learning Technical Requirements](http://www.ccbcmd.edu/Programs-and-Courses/CCBC-Online/Online-Services-Resources/Online-Learning-Technical-Requirements.aspx).

Students must notify the instructor immediately if any technical difficulties occur at any time during the semester AND should also have a plan in place for backup arrangements in such instances.

* 1. Other material related to Basic Course Information: Not Applicable

# Course Goals Overall

* 1. Course objectives as listed on the official Common Course Outline

Upon completion of this course the student will be able to:

1. perform arithmetic operations on rational numbers;
2. evaluate the absolute value of rational numbers;
3. evaluate rational numbers with exponents;
4. evaluate roots of perfect squares, cubes, and fourths;
5. simplify arithmetic expressions using order of operations;
6. evaluate algebraic expressions;
7. simplify algebraic expressions;
8. solve first degree equations in one variable;
9. solve first degree inequalities in one variable;
10. graph first degree inequalities in one variable on a number line;
11. evaluate and solve formulas;
12. solve proportions;
13. solve percent problems;
14. plot points on the coordinate plane and write ordered pairs for plotted points;
15. determine if an ordered pair is a solution of a linear equation;
16. determine the x and y intercepts of a line;
17. interpret and calculate slopes of lines;
18. determine equations of lines;
19. graph linear equations;
20. solve systems of linear equations by graphing; and
21. solve application problems by translating English sentences into algebraic equations and solving them.
    1. Major topics as listed on the official Common Course Outline
22. Real Numbers
    1. Operations with Integers
    2. Operations with Rational Numbers
    3. Absolute Value
    4. Numbers in Exponential Form
    5. Roots of Perfect Squares, Cubes, and Fourth Roots
    6. Order of Operations
23. Algebraic Expressions
    1. Variables
    2. Evaluating Algebraic Expressions
    3. Simplifying Algebraic Expressions
    4. Translating English Phrases to Algebraic Expressions
24. First Degree Equations in One Variable
    1. Solving One and Two Step Equations
    2. Solving Multi-Step Equations
    3. Solving Equations with Rational Numbers
    4. Application Word Problems
25. First Degree Inequalities in One Variable
    1. Solving Inequalities
    2. Graphing Inequalities
    3. Interval Notation
    4. Application Word Problems
26. Applications of Equations
    1. Evaluating and Solving Formulas
    2. Proportion Problems
    3. Percent Problems
27. Linear Equations
    1. Points on the Rectangular Coordinate System
    2. Intercepts of a Line
    3. Slope of a Line
    4. Equation of a Line
    5. Graph of a Line
    6. Solving Systems by Graphing
    7. Application Problems
    8. Rationale: Mathematics is the foundation of science and technology. Everyone needs mathematics in order to function in society and the world of work, therefore, this course is designed to reflect the understanding that mathematical literacy is important for all students to possess and apply. The curriculum, based on the National Council of Teachers of Mathematics Standards and the National Common Core Mathematics Curriculum as adopted by the Maryland State Department of Education, will allow our students to explore, discover, analyze and apply mathematics. Students will learn from a variety of teaching techniques and strategies which utilize all modes of learning, involving various resources, hands-on activities, and the use of computer technology and calculators. Upon completion of this course, students will be better prepared to function in a global society through the use of problem solving, communication, and reasoning by integrating the mathematical concepts across the curriculum areas in real-world situations.
    9. Other material related to Course Goals: Not Applicable

# Evaluation

* 1. Requirements:

| **Course Requirements** | **Weight/Points** |
| --- | --- |
| 2 Unit Exams | 40% |
| Midterm | 20% |
| Quizzes/HW | 10% |
| Final Exam | 30 % |
| Total | 100% |

A final course grade will be assigned using the following criteria:

| **Course Average** | **Course Grade** |
| --- | --- |
| At least 90% | A |
| At least 80% and less than 90% | B |
| At least 70% and less than 80% | C |
| Less than 70% | F |

* 1. Mathematics Department attendance policy:

1. You are expected to attend all scheduled classes.
2. Attendance is critical to student success in college.
3. Satisfactory attendance is defined to be at most six hours of unexcused absences.
4. Documentation of the reason for your absence(s) may be required.
5. The instructor may count each unexcused tardy arrival as an absence and each unexcused early departure as an absence.
   1. Mathematics Department audit policy: Students may change from credit to audit only during the published 50% refund period, as indicated in the CCBC academic calendar. Students who audit are required to attend class, participate in course activities, and complete assignments (except for tests and the final exam) in accordance with instructor guidelines and due dates. For students who do not meet these requirements, the instructor may change their grade from AU to W.
   2. Other material related to Evaluation:

Not Applicable

# Course Procedures

* 1. Course-related policies and procedures:

Everyone is expected to have cell-phones silenced when in the classroom and any missed exams must have documented paperwork explaining why an exam was missed. Any missed quizzes or homeworks will just count as a zero. (I drop the lowest 1 or 2 quizzes/homeworks)

* 1. College-wide syllabus policies: For college-wide syllabus policies, such as the Student Code of Conduct, Academic Integrity, Grades and Grading (including FX and Audit), Progress Grades, and the Withdrawal and Tuition Refund policies, please select **Syllabus Policies** from the navigation menu on the [myCCBC](https://myccbc.ccbcmd.edu/) page.
  2. College-wide student services: To access information about student services, such as Academic Advising, College and Community Outreach/Success Navigators, and Disability Support Services, students may refer to the Student Support Services link on the [CCBC catalog home page](http://catalog.ccbcmd.edu/index.php).
  3. Contact information for course-related concerns:

Students should first attempt to take concerns to the faculty member. If students are unable to resolve course-related concerns with the instructor, they should contact the Mathematics and Science Coordinator at the Dundalk Campus: Dr. Robin Minor or 443-840-3756 or rminor@ccbcmd.edu

* 1. Course calendar/schedule: See item C.2. above (Evaluation – Instructor’s Grading Policy) for location of due dates for all major assignments.

Refer to the CCBC website for the complete [Academic Calendar and Final Exam schedule](http://www.ccbcmd.edu/Resources-for-Students/Registering-for-Classes/Academic-Calendar.aspx) for the semester.

* 1. Expected end date for access to the course via the Learning Management System:

Not Applicable

* 1. Final Exam: The Final Exam date/time for this course is 5/16 6:00pm – 8:00pm
  2. Other material related to Course Procedures: www.mrcalise.com

This syllabus may be changed with notification to the class.

List of Full URLs used in this document**:**

[MATH 081 Pre-Algebra Textbook, Fall 2017 Edition](https://www.ccbcmd.edu/Programs-and-Courses/Schools-and-Academic-Departments/School-of-Mathematics-and-Science/Mathematics/MATH-081-Textbook.aspx)

https://www.ccbcmd.edu/Programs-and-Courses/Schools-and-Academic-Departments/School-of-Mathematics-and-Science/Mathematics/MATH-081-Textbook.aspx

[CCBC Online Learning Technical Requirements](http://www.ccbcmd.edu/Programs-and-Courses/CCBC-Online/Online-Services-Resources/Online-Learning-Technical-Requirements.aspx)

http://www.ccbcmd.edu/Programs-and-Courses/CCBC-Online/Online-Services-Resources/Online-Learning-Technical-Requirements.aspx

[myCCBC page](https://myccbc.ccbcmd.edu/)

https://myccbc.ccbcmd.edu/

[CCBC Catalog](http://catalog.ccbcmd.edu/index.php)

http://catalog.ccbcmd.edu/index.php

[CCBC Academic Calendar and Final Exam Schedule](http://www.ccbcmd.edu/Resources-for-Students/Registering-for-Classes/Academic-Calendar.aspx)

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