**CCBC, Spring 2019 CRN: 52400 School of Mathematics and Science**

**Intermediate Algebra, MATH083, Section E55 Mathematics Department**

**Description:** Intermediate Algebracovers rational expressions and equations, radicals, quadratic equations, complex numbers, functions and relations, and exponential and logarithmic functions. NOTE: Courses offered every fall and spring semester.

**Pre-requisites:** MATH 082 or a satisfactory score on the math placement test.

**Co-requisite:** ACLT 052

1. Basic Course Information
   1. Instructor’s Name: Anthony Calise
   2. Office Number: Mash 311

Phone Number: (410)215-7694

Email Address: acalise2@bcps.org

* 1. Instructor's Office Hours: *5:00-6:00*
  2. Mathematics Department Phone Number (Essex): 443-840-2662
  3. Class Meeting Day(s), Time(s) and Location(s): M-Th MASH 311 6:00 – 7:55
  4. Statement of Student Out of Class Work Expectations: This is a three-credit/billable hour course offered over 5 weeks. You are expected to complete **at least 17 hours of work per week outside of class** including reading, course preparation, homework, studying, etc.

Required Materials: ***Intermediate Algebra, 2nd Edition.*** This textbook can be purchased at CCBC’s Bookstore or accessed online through Blackboard or through CCBC’s website at http://www.ccbcmd.edu/Programs-and-Courses/Schools-and-Academic-Departments/School-of-Mathematics-and-Science/Mathematics.aspx

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

Upon completion of this course students will be able to:

1. simplify and perform algebraic operations on quadratic expressions, including factoring;
2. simplify and perform algebraic operations on rational expressions;
3. simplify and perform algebraic operations on radical expressions and variable expressions with rational exponents;
4. identify and perform operations on complex numbers;
5. recognize and evaluate exponential and logarithmic expressions;
6. solve quadratic equations and applications;
7. solve rational equations, including proportion and variation applications;
8. solve radical equations;
9. identify functions and use function notation;
10. perform algebraic operations on functions;
11. graph and recognize the graphs of quadratic, exponential, and logarithmic functions; and
12. determine the domain and range of functions.
    1. Major Topics as listed on the official Common Course Outline
13. Relations and Functions
14. Identify a relation and specify its domain and range
15. Identify a function and specify its domain and range
16. Recognize and use function notation
17. Perform algebraic operations on functions
18. Polynomial Expressions and Equations
19. Identify monomial and binomial greatest common factors
20. Factor polynomial expressions using various methods
21. Solve polynomial equations
22. Rational Expressions and Equations
23. Simplify rational expressions and identify where these expressions are undefined
24. Perform algebraic operations on rational expressions
25. Solve rational equations and proportions using various methods
26. Solve applications using variation
27. Radical Expressions and Equations
28. Simplify and evaluate roots and other radical expressions
29. Recognize and simplify expressions with rational exponents
30. Utilize algebraic properties to perform algebraic operations on radical expressions
31. Rationalize a monomial denominator
32. Identify and perform algebraic operations on complex numbers
33. Solve radical equations
34. Quadratic Expressions, Equations, and Functions
35. Factor and simplify quadratic expressions
36. Solve quadratic equations using various methods
37. Recognize the graph of quadratic functions and identify domain and range
38. Graph quadratic functions using axis of symmetry, vertex, and intercepts
39. Solve applications involving quadratic functions
40. Exponential and Logarithmic Expressions, Equations, and Functions
41. Explore relationship between exponential and logarithmic expressions
42. Simplify and Evaluate exponential and logarithmic expressions
43. Recognize and graph exponential and logarithmic functions
44. Identify domain and range of exponential and logarithmic functions
45. Use exponential properties to solve basic exponential and logarithmic equations
46. Solve applications involving exponential and logarithmic equations
    1. Rationale

The applications of intermediate algebra impact every area of human endeavor. It is an indispensable prerequisite for advancement in or to careers in natural sciences, social sciences and various technical professions. This course is designed to give the basic algebraic knowledge necessary for college level math courses and for the math content so prevalent in other credit courses.

1. Evaluation
   1. Requirements

*2 Exams & Final, 5 Quizzes, 5 Homeworks*

Instructor’s Grading Policy

* + 1. Departmental Final Exam 30% of course grade

The final exam review can be accessed at

<http://www.ccbcmd.edu/Programs-and-Courses/Schools-and-Academic-Departments/School-of-Mathematics-and-Science/Mathematics.aspx>

* + 1. Instructor Quizzes/Tests 60% of course grade
    2. Homework 10% of course grade

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

|  |  |
| --- | --- |
| **Final Average** | **Final 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. Math 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 6 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.
  2. Math 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.

1. Course Procedures
   1. Course Related Policies and Procedures (www.mrcalise.com)
   2. **List of scheduled major graded assignments with specific due dates:**
   3. College-Wide Syllabus Policies: [“For college wide syllabus policies such as the Code of Conduct related to Academic Integrity and Classroom Behavior or the Audit/ Withdrawal policy, please go to the Syllabus Tab on the MyCCBC page](https://myccbc.ccbcmd.edu/Pages/Default.aspx).”
   4. 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 faculty member, they should contact the MathematicsDepartment Coordinator at the Catonsville campus,Tejan Tingling,at 443-840-2631 or[ttingling@ccbcmd.edu](mailto:ttingling@ccbcmd.edu).
   5. Academic Calendar and Final Exam Schedule:

<http://www.ccbcmd.edu/Resources-for-Students/Registering-for-Classes/Academic-Calendar.aspx>

**YOUR FINAL EXAM DATE IS THE LAST DAY OF CLASS.**

This syllabus may be changed with notification to the class.