

BERGEN COMMUNITY COLLEGE
DIVISION OF MATHEMATICS, SCIENCE AND TECHNOLOGY
DEPARTMENT OF DEVELOPMENTAL MATHEMATICS

COURSE SYLLABUS

MAT-044 Algebra Topics

INSTRUCTOR: _____ **OFFICE** _____

EMAIL: _____ **PHONE:** _____

COURSE DESCRIPTION: MAT 044 Algebra Topics is an algebra course for students who have completed MAT - 040 Algebra for Liberal Arts and whose program of study requires the completion of MAT 160 – Intermediate Algebra. Topics include integral exponents, polynomials, rational expressions, square roots and quadratic

PREREQUISITES: MAT-040 with a grade of C or better

CREDITS/HOURS: 3 credits (non-degree), 3 hours

GEN'L ED COURSE: No

STUDENT LEARNING OUTCOMES: Upon successful completion of this course, students will be able to:

1. Evaluate arithmetic and algebraic expressions, including exponential expressions, polynomial expressions, rational expressions, and radical expressions
2. Simplify arithmetic and algebraic expressions, including exponential expressions, polynomial expressions, rational expressions, and radical expressions
3. Solve equations, including linear, quadratic and absolute value equations.
4. Factor algebraic expressions

ASSESSMENT MEASURES: Each of the above listed student learning objectives will be assessed by,

1. Homework assignments and quizzes
2. Written examinations
3. Other, as announced by the instructor

TEXT: MyMathLab Code, by Martin-Gay; Pearson. (includes eBook)

ELECTRONIC DEVICES: The Department of Mathematics prohibits the use of cell-phones, PDA's, laptops, headphones, IPODs and other such devices in mathematics classes unless otherwise specified by the grading policy provided by the instructor at the beginning of the semester.

COURSE OF STUDY:
Fall 2014.1 – MAT 044

<u>Topic</u>	<u>Sections</u>
Exponents and Polynomials	12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7
Factoring Polynomials	13.1, 13.2, 13.3, 13.4, 13.5, 13.6, A.1
Rational Expressions	14.1, 14.2, 14.3, 14.4, 14.5, 14.6
Roots and Radicals	15.1, 15.2, 15.3, 15.4,
Quadratic Equations	16.1, 16.2, 16.3

CALCULATOR USAGE: A four function calculator is allowed throughout the course.

GRADING POLICY: Refer to the instructor's grading policy on the course outline distributed during the first class.

- ❖ All students must take the departmental final exam. The final will count for 25% of the overall grade, but a student who fails to attain a grade of 55% or better on the Final Exam will be unable to receive a passing grade for the course.
- ❖ Tests and Quizzes will account for no less than 60% of the overall grade.
- ❖ Grades in the developmental courses will be assigned as follows:
 - **A** = 90-100 %
 - **B+** = 86-89 %
 - **B** = 80-85 %
 - **C+** = 76-79 %
 - **C** = 70-75 %
 - **F** = Below 70 %

BCC Attendance Policy:

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Developmental Mathematics Departmental Attendance Policy:

A student who exceeds the allowable maximum number of absences (see chart below) may be given an “E” grade. Note: two late arrivals or two early departures will equal one absence. In summer, classes missed may count as double absences.

Courses which meet:	Maximum absences:
15-weeks	6 absences allowed
12-weeks	7 absences allowed
7-weeks	3 absences allowed

EXTRA HELP:

The Henry and Edith Cerullo Learning Assistance Center (CLAC), L-125, is a source of tutorial assistance in understanding operations of basic mathematics and in problem solving. For an exact schedule, call 201-447-7489.

Math Walk-In Center, A-113, offers tutorial support in a collaborative setting.

The CLAC at the Meadowlands, Room 202. Tutors are available to aid in the understanding and reinforcement of the course material learned in class. Practice worksheets are available. Hours will be posted on the door. For an exact schedule, call (201) 4934096 or visit <http://www.bergen.edu/current-students/tutoring/testing-and-tutoring-at-the-meadowlands>

FACULTY**ABSENCE****PROCEDURE:**

“CLASS CANCELLATIONS” may be found by clicking on “Current Students” followed by “Class Cancellations” on the Bergen Community College website, www.bergen.edu. A list is also posted in a glass case near A-129, the main corridor on the first floor, and in Ender Hall or in the lobby of the Meadowlands Campus. Students may consult these listings before going to class. If a cancelled class is not listed, it should be reported to the Dean’s Office (A-325) or the Adjunct Office (C-100).

Students who require accommodations in accordance with the American with Disabilities Act can request these services from the Office of Specialized services. To learn more about how to apply for services, please visit them at <http://www.bergen.edu/oss>

The BCC food pantry is available to meet the urgent needs of members of our campus community. The Food Pantry provides non-perishable food items, toiletries, and additional support services in an environment that emphasizes discretion and confidentiality. Anyone needing assistance is encouraged to visit HS-100 (Office of Health Services) Monday through Thursday 9am-9pm. Donations will also be accepted in HS-100.

MAT-044- Algebra Topics

MODULE 11 Factoring Polynomials

- 12.3-12.5 Review of Polynomials
- 12.6 Special Products
- 12.7 Dividing Polynomials (12.7(a) only)
- 13.1 The greatest Common Factor (and Grouping);
- 13.2 Factoring Trinomials of the Form $x^2 + bx + c$
(13.3 Factoring Trinomials of the Type $ax^2 + bx + c$ By Trial and Error) – Optional
- 13.4 Factoring Trinomials of the Type $ax^2 + bx + c$ by Grouping
- 13.5 Factoring Perfect Square Trinomials and Difference of Squares
- A.1 Factoring Sums and Difference of Cubes
- 13.6 Solving Quadratic Equations by Factoring

MODULE 12 Rational Expressions and Equations

- 14.1 Simplifying Rational Expressions
- 14.2 Multiplying and Dividing Rational Expressions
- 14.3 Adding and Subtracting with the Same Denominator and Least Common Denominator
- 14.4 Adding and Subtracting Rational Expressions with Different Denominators
- 14.5 Solving Equations Containing Rational Expressions
- 14.6 Rational Equations and Problem Solving

MODULE 13 Roots and Radicals

- 15.1 Introduction to Radicals
- 15.2 Simplifying Radicals
- 15.3 Adding and Subtracting Radicals
- 15.4 Multiplying and Dividing Radicals (*Denominator Containing One Term*)

MODULE 14 Quadratic Equations

- 16.1 Solving Quadratic Equations by the Square Root Method
- 16.2 Solving Quadratic Equations by the Completing the Square
- 16.3 Solving Quadratic Equations by the Quadratic Formula
- A.3 Absolute Value Equations

MAT-044
TENTATIVE SCHEDULE 15 week
Textbook: Developmental Math (2/E) Martin-Gay

Week 1	Review of Polynomials Sections 12.3-12.5	Special Products Section 12.6
Week 2	Dividing Polynomials Section 12.7	GCF Factoring and Factor by Grouping 13.1
Week 3	Factoring Trinomials where $a=1$ Section 13.2	Factoring Trinomials where $a>1$ Sections 13.3, 13.4
Week 4	Factoring Perfect Square Trinomials and Difference of Squares Section 13.5	Factoring Sums and Difference of Cubes Sections A.1
Week 5	Solving Quadratic Equations by Factoring Section 13.6	Review
Week 6	Test 1	Simplifying Rational Expressions Section 14.1
Week 7	Multiplying and Dividing Rational Expression Sections 14.2	Adding and Subtracting Rational Expressions Sections 14.3, 14.4
Week 8	Solving Equations with Rational Expressions Section 14.5	Rational Equations and Problem Solving Section 14.6
Week 9	Review	Test 2
Week 10	Introduction to Radicals Section 15.1	Simplifying Radicals Section 15.2
Week 11	Adding and Subtracting Radicals Section 15.3	Multiplying and Dividing Radicals Section 15.4
Week 12	Solving Quadratic Equations by the Square Root Method Section 16.1	Solving Quadratic Equations by Completing the Square Section 16.2
Week 13	Solving Quadratic Equations by the Quadratic Formula Section 16.3	Review
Week 14	Test 3	Review
Week 15	Review	Final