

BERGEN COMMUNITY COLLEGE DIVISION OF MATHEMATICS, SCIENCE AND
TECHNOLOGY
DEPARTMENT OF MATHEMATICS
COURSE SYLLABUS
MAT-159 INTERMEDIATE ALGEBRA Part II

COURSE

DESCRIPTION: This course is the study of polynomial and rational expressions, imaginary numbers, integral and fractional expressions, roots and radicals, quadratic equations, functions, elementary curve sketching, and inequalities.

CREDITS/HOURS: 3 credits 3 lecture hours

PREREQUISITE: MAT-157 with a grade of C or better.

GENERAL EDUCATION

COURSE: NO

STUDENT LEARNING OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Solve quadratic equations in one variable, and those containing rational expressions, and radicals.
2. Identify the differences between functions and relations.
3. Evaluate functions and perform operations with functions.
4. Simplify arithmetic and algebraic expressions including those containing rational expressions, rational exponents, radicals, or complex numbers.
5. Solve quadratic inequalities in one variable including linear.
6. Graph quadratic, logarithmic and exponential functions.
7. Find the equations of parabolas and circles given certain conditions, and apply this knowledge to concrete applications.

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

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

COURSE GRADE: Students should refer to the instructor's grading policy which will be distributed during the first meeting of the class.

NOTE: **A COMPREHENSIVE DEPARTMENTAL FINAL EXAMINATION WILL COUNT AS 25% OF THE COURSE GRADE.**

TEXTBOOK: Intermediate Algebra, Messersmith, Vega-Rhodes, Feldman, 2nd Edition, McGraw Hill Publisher, Custom Edition for Bergen Community College

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COURSE CONTENT:

<u>TOPIC</u>	<u>SECTIONS (including the “Putting It All Together” sections)</u>
Rational Expressions, Equations, and Functions	8.1*, 8.2*, 8.3, 8.4
Radicals and Rational Exponents	9.1 – 9.8
Quadratic Equations and Functions	10.1 – 10.3, 10.5, 10.7 (Quadratic Inequalities Only)
Exponential and Logarithmic Functions	11.1 – 11.5
Other Functions; the Circle	12.1, 12.2
Conic Sections	10.6, 12.3, 12.4

*** Brief Review**

ELECTRONIC

DEVICES POLICY: The Department of Mathematics prohibits the use of cellphones, laptops, headphones, and other such devices in mathematics classes unless otherwise specified in the grading policy provided by the instructor at the beginning of the semester.

FACULTY ABSENCE CLASS CANCELLATIONS may be found at www.bergen.edu/classcancellations

PROCEDURE: If a cancelled class is not listed, it should be reported to the Mathematics Department Office or the Adjunct Office (C-107).

WEBSITE: Go to www.bergen.edu/academics/academic-divisions-departments/mathematics for more information regarding the Mathematics Department.

STUDENT SUPPORT SERVICES:	Learning Assistance Center	Room: L-125	879-7489
	Math and Science Walk-In	Room: L-131	879-7489
	Office of Specialized Services	Room: L-115	612-5269

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Statement on Accommodations for Disabilities

The Office of Specialized Services (Pitkin Education Center: L-115, 201-612-5269, <http://www.bergen.edu/oss>) promotes an inclusive environment for students with disabilities through the provision of accommodations and auxiliary support services. Students interested in learning more about the services provided through this office are strongly encouraged to contact OSS before the semester begins or during the first week or class to request accommodations. Faculty and staff are available to meet with students via phone, in-person, and WebEx (online meeting app). You can also connect by phone: 201-612-5269 and email: ossinfo@bergen.edu. For more information regarding the above, see the section entitled: Office of Specialized Services or Services for Students with Disabilities in the current Bergen Community catalog.

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.

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SAMPLE COURSE CALENDAR
Intermediate Algebra-McGraw Hill

Week 1	Chapter 7 review	Chapter 7 review
Week 2	Chapter 8 Section 8.1 Simplifying, Multiplying and Dividing Rational Expressions	Section 8.2 Adding and Subtracting Rational Expressions
Week 3	Chapter 9 Section 9.1 Radical Expressions and Functions	Chapter 6 Section 6.5 Division of Polynomials and Polynomial Functions Chapter 7
Week 4	Review	Test #1
Week 5	Chapter 10 Section 10.1 The square root property and completing the Square	Chapter 10 Section 10.1 The square root property and completing the Square
Week 6	Chapter 10 Section 10.2 Quadratic Formula Section 10.3 Equations in Quadratic Form	Chapter 10 Section 10.2 Quadratic Formula Section 10.3 Equations in Quadratic Form
Week 7	Section 10.5 Quadratic Functions and their Graphs	Section 10.5 Quadratic Functions and their Graphs
Week 8	Section 10.7 Quadratic and rational inequalities	Section 10.7 Quadratic and rational inequalities
Week 9	Review for test	Test #2
Week 10	Chapter 11 Section 11.1 Composite and Inverse Functions	Chapter 11 Section 11.1 Composite and Inverse Functions
Week 11	Chapter 11 Section 11.3 Logarithmic Functions	Chapter 11 Section 11.3 Logarithmic Functions
Week 12	Chapter 11 Section 11.4 Property of Logarithmic Functions	Chapter 11 Section 11.4 Property of Logarithmic Functions
Week 13	Chapter 11 Section 11.5 Common and Natural Logarithms and change of base.	Graphing Other useful Functions
Week 14	Review	TEST#3
Week 15	Review	FINAL EXAM