

Naugatuck Valley Community College
STEM Division
Science, Technology, Engineering and Mathematics

Common Course Syllabus
Intermediate Algebra MAT*H137

COURSE TITLE: Intermediate Algebra, MAT*H137

COURSE DESCRIPTION: The main themes of Intermediate Algebra are functions, represented by tables, graphs, and rules, and problem solving. The study of polynomial functions is extended via applications involving linear functions, linear systems, and quadratic functions. Students also study exponential functions, rational functions, radical functions, and absolute value functions.

NUMBER OF CREDITS: 3 credit hours. This course may be used as a general elective; this will not fulfill a mathematics requirement in any degree program.

PREREQUISITE: Grade of "C" or better in MAT*H095 (Elementary Algebra) or an appropriate score on a college placement exam.

TECHNOLOGY: Computer component required; TI-83 (Plus) or TI-84 (Plus) or online graphing utility required.

COURSE OBJECTIVES:

1. Understand and effectively use the language of algebra.
2. Develop problem-solving skills and algebraic skills necessary for higher level mathematics courses.
3. Develop critical thinking skills to apply algebraic concepts to real world applications.
4. Use technology to explore and make connections.

LEARNING OUTCOMES: At the end of this course the student will be able to do the following:

- A. Functions —
- Demonstrate understanding of the concept of a function.
 - Make connections between symbolic, numeric, and graphic representations of functions.
 - Recognize and use function notation.
 - Evaluate polynomial, rational, radical, and absolute value functions.
 - Determine domains and ranges of functions, expressing these sets in words and algebraically.

- B. Linear Functions —
- Solve real-life problems modeled by linear functions and systems of linear functions.
- C. Quadratic Functions —
- Graph quadratic functions.
 - Identify vertex, zeros, and axis of symmetry.
 - Factor quadratic expressions using greatest common factor, difference of two squares, and trinomials of form $ax^2 + bx + c$ where a or c is prime.
 - Solve quadratic equations by graphing, factoring, square root property, and the quadratic formula.
 - Solve real-life problems modeled by quadratic functions.
- D. Polynomial Functions of Degree 3 or Higher —
- Perform operations on polynomial expressions.
 - Graph polynomial functions and identify zeros.
- E. Exponential Functions —
- Demonstrate understanding of exponential growth/decay.
 - Evaluate exponential functions.
 - Graph exponential functions.
 - Solve applications involving exponential functions.
- F. Rational and Radical Functions —
- Graph rational functions and radical functions.
 - Apply the rules for rational exponents and understand the relationship between rational exponents and root signs.
 - Perform operations on basic rational and radical expressions.
 - Solve equations involving rational expressions.
 - Solve applications involving rational functions.
- G. Absolute Value Functions —
- Graph absolute value functions.

GRADING SYSTEM: For the purpose of computing numerical credit point averages, grades are evaluated as follows for each semester hour of credit. Grades on exams, papers, and quizzes, will be based on this grading system.

Numeric Grade	Acceptable Letter Grade Range to be used by the instructor	Description
90 – 100	A– to A	Excellent
80 – 89	B–, B, B+	Above Average
70 – 79	C–, C, C+	Average
60 – 69	D–, D, D+	Below Average
Below 60	F	Failing

CLASS CANCELLATION PROCEDURE: *If the instructor is late, the class is expected to wait 15 minutes before leaving or until informed of a cancellation by a college official. Information on weather related closings/late openings concerning Naugatuck Valley Community College can be obtained through local radio and television stations, or via the*

college website (<http://www.nvcc.commnet.edu>). NOTE: An alternative assignment may be given if classes are canceled due to weather.

ACADEMIC HONESTY STATEMENT: *At NVCC we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Trustee's Proscribed Conduct Policy in Section 5.2.1 of the BOT Policy Manual. This policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, and other proscribed activities. Plagiarism is defined as the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally. Anyone who is caught cheating on exams, plagiarizing another's work or published material will fail the course regardless of progress made in the course.*

CHILDREN ON CAMPUS: *With permission of the instructor only – Children must be attended at all times by a responsible adult. The student must notify the instructor or supervisor prior to the beginning of the class or activity that a child is present. Instructors and/or supervisors are authorized to ask the student or program participants to leave should the presence of a child be disruptive.*

CELL PHONE/PAGER USE POLICY: *Students are hereby notified that cellular phones and beepers are allowed in class only if they are turned off or turned to a silent mode. Under no circumstances are telephones to be answered in class. Students who ignore this policy may be asked to leave class. When there are extenuating circumstances that require that a student be available by phone or beeper, the student should speak to the instructor prior to class, so that together they can arrive at an agreement concerning the device.*

STUDENTS WITH SPECIAL NEEDS: *Students who may require accommodations on the basis of a learning disability are encouraged to contact the Coordinator of Learning Disabilities. Students who may require accommodations on the basis of all other disabilities should contact the Coordinator of Disability Services. After providing documentation and completing the disability disclosure process, students are then encouraged to meet with their instructor(s) to discuss the accommodations approved by the appropriate Coordinator and to complete the Accommodations Agreement form. Accommodations are not retroactive, students are therefore encouraged to meet with their instructor(s) at the beginning of each semester. Instructors, in conjunction with appropriate college personnel, will provide assistance and/or accommodations only to those students who have completed the disability disclosure and accommodations process.*