Math 136
Naugatuck Valley Community College
Waterbury, Connecticut
STEM Division: Science, Technology, Engineering and Mathematics
Fall 2014

COURSE: Math 136 Intermediate Algebra with Lab **CRN:**
Instructor: **Time:**
Office: **Phone:**
Email: **Room:**
Office Hours:

Course Description: This course is a further study of algebra and mathematical modeling of functions and relations represented by tables, graphs, words, and symbols. Polynomial functions and expressions with special attention to linear, quadratic, exponential, rational, and radical functions are studied. There is an emphasis on modeling and applications for all topics.
This course incorporates an embedded review of the Math 095: Elementary Algebra Foundations topics needed for success in Math 137: Intermediate Algebra.

Number of Credits: 4 credit hours. This course may be used as a college general elective. This course will not fulfill a mathematics requirement in any degree program.

Prerequisites: Appropriate Accuplacer Placement Exam scores (Arithmetic 100.0 or Accuplacer Elementary Algebra 045.0)

Required Textbook: Beginning & Intermediate Algebra (w/Bind-In MyMathLab) 5th Edition, by E. Martin-Gay**. ISBN:** 9780321729361

Calculator: A graphing calculator is required. Any of the following TI versions meets the requirement: TI-82, TI-83 or TI- 84. Programmable Calculators and Computer Algebra Systems are not allowed.

Course Objectives:
1) Understand and effectively use the language of algebra.
2) Develop problem-solving, algebraic, and college readiness skills necessary for higher level mathematics courses.
3) Develop critical thinking skills to model and 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:

1) Linear Functions
   a) Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and/or using technology
   b) Determine identifying characteristics of linear functions
   c) Model and solve real world applications with linear functions (e.g., car depreciation) and systems of linear equations

2) Quadratic Functions and/or Expressions
   a) Provide multiple representations of quadratic functions or expressions by hand and/or using technology

b) Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
c) Evaluate, simplify, and perform operations on quadratic functions or expressions
d) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically
e) Solve real world applications involving quadratic equations and functions

3) Exponential Functions and/or Expressions
a) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
b) Determine identifying characteristics of exponential functions or expressions
c) Evaluate, simplify, and perform operations on exponential functions or expressions
d) Identify exponential functions within real world applications

4) Rational Functions and/or Expressions
a) Provide multiple representations of simple rational functions or expressions by hand and/or using technology
b) Determine identifying characteristics of rational functions or expressions
c) Evaluate, simplify, and perform operations on simple rational functions or expressions
d) Solve simple rational equations algebraically and/or graphically
e) Solve real world applications involving rational functions

5) Radical Functions and/or Expressions
a) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
b) Determine identifying characteristics of radical functions or expressions
c) Evaluate, simplify, and perform operations on simple radical functions or expressions
d) Solve simple radical equations algebraically and/or graphically
e) Solve real world applications involving radical functions
f) Identify imaginary numbers

6) Degree 3 or Higher Polynomial Functions and/or Expressions
a) Provide multiple representations of degree 3 or higher polynomial functions or expressions
b) Evaluate, simplify, and perform operations on degree 3 or higher polynomial functions or expressions
c) Determine identifying characteristics of degree 3 or higher polynomial expressions
d) Solve degree 3 or higher polynomial equations algebraically by factoring

7) Exponential Functions
a) Solve simple exponential equations algebraically and/or graphically

Instructional Methodology
This course is enriched with embedded support throughout all instructional components. Instruction is offered in diverse formats both inside and outside the classroom to develop continuity and reinforcement of mathematical concepts and practices that will prepare students for higher level college mathematics coursework. Attendance to class is not only an expectation (please see Absences and Attendance below), it is essential to effectively

In order to promote a successful mathematics learning experience, students are expected to dedicate at least one weekly hour on Supplemental Instruction at the ACE center; above and beyond the regular study and preparation that is consistent with a 4-credit hour course.

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

Evaluative Criteria: FILL IN HERE-
PLEASE APPLY GROUP ASSESSMENT GUIDELINES

NOTE: YOU MUST have at least a "C" to complete the course and move on to the next course.

Absences and Attendance

- The Faculty expects that each student will exercise personal responsibility regarding class attendance.
- All students are expected to attend every class session of each course for which they are registered.
- Students are responsible for all that transpires in class whether or not they are in attendance, even if absences are the result of late registration or add/drop activity at the beginning of a term as permitted by college policy.
- The Faculty defines excessive absence or lateness as more than the equivalent of one week of class meetings during the semester. Distance Learning courses will use criteria established by the Instructor.
- Excessive absence or lateness may, at the discretion of the instructor, lower a student's course grade.
- At the beginning of each semester, instructors will submit, to the Academic Dean's office, the names of students who have not attended any classes during the first two weeks of classes.

Class Cancellation: 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 cancelled due to weather. ALWAYS check MyMathLab for possible notice of assignments. If classes are cancelled due to weather, you will **have** to keep up with the course outside of class. **FYI:** When the opening of the school is "delayed" for 2 hours, this means that the school opens at 8:30 (on a "normal" day, school opens at 6:30).

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 violates the Board policy may fail the course at the discretion of the instructor.

A student may not obtain a transcript notation of "W" in a course if there exists substantial reason to believe the student has engaged in academic misconduct in the course. A transcript notation of "W" will only be permitted for such students when the final resolution results in finding the student did not commit academic misconduct in the course.

Children on Campus: For the purpose of this policy, children are defined as minors under the age of 18 who are not enrolled in a Naugatuck Valley Community College course or program. Children must be attended at all times by a responsible adult. **Children may accompany an adult to class on an occasional basis and only with the prior permission of the class instructor. In an emergency situation that is not repetitive,** a request may be made to the instructor of the course or supervisor of the activity for permission to bring a child to class or on campus. The student must notify the instructor or supervisor prior to the beginning of the class or activity that a child is present. Pre-k, elementary and high schools that are not in session are not emergency situations. Arrangements must be made for child care outside of NVCC.

It is expected that this accommodation will be made only when there is no disruption to the teaching and learning process. Instructors and/or supervisors are authorized to ask the student or program participant to leave should the presence of the child be disruptive.

Children are never permitted in any test, exam or final exam session.
(Full policy can be found in the NVCC Student Handbook)

Cell Phone/Pager Use Policy: Students are hereby notified that cell 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-ADA: Students who may require accommodations on the basis of a learning disability are encouraged to contact the Counselor for Students with Learning Disabilities (Terri Latella, K519, 203-575-8608). Students who may require accommodations on the basis of all other disabilities should contact the Coordinator of Disability Services (Laurie Novi, K519, 203-575-8035). 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 disabilities contact 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.*

Continuing Notice of Non Discrimination:
Naugatuck Valley Community College does not discriminate on the basis of race, color, religious creed, age, gender, gender identity or expression, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, political belief, veteran status, sexual orientation, genetic information or criminal record. The following individuals have been designated to handle inquiries regarding the non discrimination policies. Jacquie Swanson, Associate Director of Human Resources/Title IX Coordinator, Room K704, Naugatuck Valley Community College, 750 Chase Parkway, Waterbury, CT 06708, 203-575-8043. Robert Divjak, Director of Facilities/Section 504/ADA Coordinator, Room C216, Naugatuck Valley Community College, 750 Chase Parkway, Waterbury, CT 06708, 203-575-8235.

Official Student Email:
As of January 1, 2013, new and current Naugatuck Valley Community College students were given an official student email address through Microsoft Office 365. This email address is the primary mode of communication with the college. Emails will no longer be sent to personal email accounts. In the near future, the Office 365 account will also give free access to web applications of Microsoft Word, Excel, PowerPoint and OneNote. Visit nv.edu/email for details on setting up your account or for help, call or visit IT: 203-575-8092 or nv.edu/IT.

Course Outline: The following textbook sections will be studied in class. Students should use the Weekly-Time Tracker to ensure that they are meeting daily expectations associated with the corresponding sections taught in class.

Text Book Section (Beginning & Intermediate Algebra, 5th Edition)	Section Number
Linear Equations and Inequalities	
Simplifying Algebraic Expressions	2.1 (Embedded)
The Addition and Multiplication Properties of Equality	2.2
Solving Linear Equations	2.3
An Introduction to Problem Solving	2.4
Solving Linear Inequalities	2.8
Linear Functions	
Reading Graphs and the Rectangular Coordinate System	3.1 (Embedded)
Graphing Linear Equations	3.2
Intercepts	3.3
Slope and Rate of Change	3.4
Equations of Lines	3.5
Functions	3.6
Graphing and Writing Linear Equations	8.1
Reviewing Function Notation and Graphing Nonlinear Functions	8.2
Solving Systems of Linear Equations by Graphing	4.1 (Embedded)
Solving Systems of Linear Equations by Substitution	4.2 (Embedded)
Solving Systems of Linear Equations by Addition	4.3 (Embedded)
Systems of Linear Equations and Problem Solving	4.5
Exponential Expressions	
Exponents	5.1 (Embedded)
Negative Exponents and Scientific Notation	5.5
Radical Functions and Expressions	
Radicals and Radical Functions	10.1
Rational Exponents	10.2
Simplifying Radical Expressions	10.3 (Objectives 1 – 3 only)
Radical Equations and Problem Solving	10.6 (Square Roots Only)
Higher Polynomial Expressions	
Polynomial Functions and Adding and Subtracting Polynomials	5.2 (Embedded)

Multiplying Polynomials	5.3 (Embedded)
Special Products – Difference of Two Squares Only	5.4 (Embedded)
The Greatest Common Factor and Factoring By Grouping	6.1
Factoring Trinomials of the Form $x^2 + bx + c$	6.2
Factoring Trinomials of the Form $ax^2 + bx + c$	6.3 (Objective 3 only)
Factoring Trinomials of the Form $ax^2 + bx + c$ by Grouping	6.4
Factoring Binomials	6.5 (Objective 1 only)
Solving Quadratic Equations by Factoring	6.6 (Objectives 1 – 2 only)
Quadratic Functions and/or Expressions	
Solving Quadratic Equations by the Quadratic Formula	11.2
Quadratic Functions and Their Graphs	11.5
Further Graphing of Quadratic Functions	11.6 (Objective 2 only)
Rational Functions and Expressions	
Rational Functions and Simplifying Rational Expressions	7.1
Multiplying and Dividing Rational Expressions	7.2
Adding and Subtracting Rational Expressions with Common Denominators and Least Common Denominators	7.3
Adding and Subtracting Rational Expressions with Unlike Denominators	7.4
Solving Equations Containing Rational Expressions	7.5
Proportion and Problem Solving with Rational Equations	7.6 (Objectives 1 and 2 only)
Exponential Functions	
Exponential Functions	12.3

Internet Related Sites:

www.mymathlab.com

This is the site where students will find the E-book (electronic book) with practice and sample worked out problems, the online homework and the online quizzes.

www.khanacademy.org

This is an excellent resource to access practice problems and video tutorials.

Tutoring Resources: The Academic Center for Excellence (ACE), provides tutoring in math, sciences, English and writing, and numerous other subjects. Students can learn about the full range of tutoring and other student success services by going by the ACE in E500 Ekstrom Hall, visiting its webpage at http://www.nv.edu/Student-Life/ACE-Tutoring, or by calling (203) 596-8717.

UPDATE AS NEEDED **For the Fall 2013 semester, the hours for the ACE are**:

Monday and Tuesday	8 am – 8 pm
Wednesday and Thursday	8 am – 7pm
Friday	8 am - 4pm
Saturday	10 am – 3 pm

Sunday	12 pm - 4 pm

Library Resources:
The Max R. Traurig Library is located on the 4th and 5th floors of the L building. The library has books, journals, databases, research guides, DVDs and CDs to support the college curriculum, as well as copies of all the textbooks used at NVCC. The online journal databases, ebooks, and streaming videos can be accessed via the library website at www.nv.edu/library or through the Library tab in MyCommNet.

Hours:	Monday and Tuesday	8 am – 8 pm
	Wednesday and Thursday	8 am – 6 pm
	Friday	8 am - 4:30 pm
	Saturday and Sunday	10 am – 2 pm

Phone: (203) 575-8024
Email: library@nv.edu

“COURSE SECTION EXPECTATIONS” – This is completely optional and can be added to the syllabus in a new page. Though it is not formally part of the syllabus, issuing section specific information will keep all course expectations organized and within one same document for students.

Please note that any content in this section should only supplement the contents from the common syllabus. Assessment guidelines, topics covered by lesson, and SI guideliens should be consistent with what has been agreed upon by the group.

Possible additions:

- This is a good place to add the “Weekly – Time Tracker” delineating the sections that will be studied by date.

- Some instructors like to a letter to the class or a statement with their personal goals for their students.

- This would also be a good place to attach the MyMathLab instructions to sign up to the course.