Course:	**Intermediate Algebra (Mat 137)**
Prerequisite:	MA 095 or appropriate score on the mathematics placement exam
Instructor:	LARISA ALIKHANOVA
Textbook:	<u>Intermediate Algebra</u>; 4th Edition, by K. Elayn Martin-Gay, M. Greene

Course Description: Includes a rigorous study of the real number system, polynomials, rational exponents, radicals, sets, relations, first and second-degree functions, first and second-degree equations and inequalities, systems of equations and complex numbers.

Course Objectives: To re-enforce the basic foundation of Algebra and to build upon this foundation a more in-depth understanding of the basic structure of Algebra so that he/she might better be able to understand some of the algebraic processes that occur in everyday life. These objectives will be attained through the course outline and exam schedule.

Measurements: Quizzes, projects – 15%, each test – 20%, final exam 25%. Your final exam grade can be counted twice; it can replace your lowest or missed test grade.

Grading: A 94-100; A- 90-93; B+ 87-89; B 83-86; B- 80-82; C+ 77-79; C 73-76; C- 70-72; D+ 67-69; D 63-66; D- 60-62; F below 60.

Attendance: Attendance is extremely important. Your attendance, participation in classroom work and preparation for each class is required and is essential to your success in the course.

Plagiarism and Academic Honesty: At TRCC, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

Office Hours: M, W 10:30 a.m. – 11:30 a.m., 1:30 – 2:00 p.m., and Thursday 4:30 – 5:30 p.m. Room 204, Thames Valley Campus. Phone **#875-2375.**
E-mail **lalikhanova@trcc.commnet.edu**

Check your e-mail regularly for test/quiz/homework announcements. Check you email and WebCT Vista for class cancellations.

Support Services: Tutorial services. Peers. Meeting with me for an extra help on an appointment basis. Mathematics Lab - MyMathLab

Disabilities Statement: Students with disabilities, who may require special accommodations and support services, are encouraged to notify:
1. Chris Scarborough, who is coordinating services to students with disabilities.
2. The instructor during the first two weeks of class.

Course Outline:

Chapter 1   Algebraic Expression and Equations
                Sections 1.5, 1.6, 1.8

                Trigonometric Functions of Acute Angles
                Right Triangle Trigonometry
                Appendix E (p. 846 - 857)

Chapter 2   Graphs and Functions
                Sections 2.5

Chapter 3   Linear Inequalities and Problem Solving
                Sections 3.2, 3.3

Chapter4   Systems of Linear Equations
                Sections 4.1-4.3

                TEST

Chapter 5   Exponents, Polynomials
                Sections 5.1-5.8

Chapter 6   Rational Expressions
                Sections 6.1-6.3, 6.6-6.7

                TEST

Chapter 7   Rational Exponents, Radicals, Complex Numbers
                Sections 7.1-7.3, 7.6

Chapter 8   Quadratic Equations
                Sections 8.1-8.3, 8.5, 8.6

                TEST

Chapter 9   Exponential and Logarithmic Functions
                Sections 9.3-9.7

FINAL EXAM

Course Outcome:

Upon successful completion of this course, the student should be able to:
1. Solve linear equations and inequalities in one variable.
2. Graph linear equations and inequalities in two variables.
3. Find the slope of a line.
4. Find the equation of a line.
5. Solve systems of linear equations by substitution, addition, and graphing.
6. Graph linear inequalities in two variables.
7. Perform operations on exponents.
8. Perform operations on polynomials.
9. Factor polynomials.
10. Perform operations on rational expressions.
11. Solve rational equations.
12. Perform operations on radical expressions.
13. Work with rational exponents.
14. Perform operations on complex numbers.
15. Solve radical equations.
16. Solve quadratic equations by factoring, taking square roots, completing the square and quadratic formula.
17. Graph quadratic functions.
18. Solve the reducible quadratic equation.
19. Solve problems on applications of linear equations, quadratic equations, and systems of equations.
20. Perform operations on exponential and logarithmic expressions.
21. Solve exponential and logarithmic equations.
22. Find all 6 trigonometric ratios in a given right triangle.
23. Solve right triangles.

HOMEWORK ASSIGNMENT (Odd numbered problems). This is a guide only. The assignments may vary.

1.5	p.50	35 – 69 odd
1.6	p.60	21, 33, 41
1.8	p.83	1 – 13 odd

2.5	p. 171	1, 15, 21, 27, 31, 41, 43, 49, 51, 53, 57, 75, 77, 79

3.2	p. 227	23, 27, 29, 31, 41, 55, 57, 61, 69, 71, 75, 79
3.3	p. 236	19, 21, 27, 29, 31, 33, 35, 37, 41

4.1	p. 278	1, 7, 11, 15, 19 – 37 odd, 81 – 86 all
4.2	p. 287	5 – 13 odd
4.3	p. 296	1, 9, 11, 17

5.1	p. 331	49 – 81 odd
5.2	p. 338	29 – 55 odd
5.3	p. 351	1, 5, 9, 13, 49 – 55 odd
5.4	p. 360	1 – 11, 19 – 25, odd, 27, 29, 31, 43, 45
5.5	p. 366	9 – 21, 43 – 55 odd
5.6	p. 376	1 – 11, 17 – 33, 41
5.7	p. 382	1 – 27 odd
5.8	p. 395	1 – 23, odd, 37, 47, 87

6.1	p. 420	13 – 51 every other odd
6.2	p. 429	5, 27, 33, 45
6.3	p. 436	1, 3, 7, 15, 17
6.5	p. 452	11, 13, 15, 17
6.6	p. 462	5, 7, 19, 23, 27

7.1	p. 491	1 – 11, 19 – 27 odd
7.2	p. 498	1 – 61 every other odd
7.3	p. 507	1 – 5, 13 – 19, 59 63 odd
7.5	p. 520	1, 3, 13
7.6	p. 528	1 – 13 odd
7.7	p. 538	1, 3, 9, 19, 25

8.1	p. 559	1 – 25, odd, 35, 41, 45, 57
8.2	p. 570	9 – 17, odd, 23, 27, 29
8.3	p. 579	1, 9, 13, 19
8.5	p. 596	1, 7, 13, 25, 27
8.6	p. 604	1 – 7 odd, 45, 47

9.3	p. 648	21 – 35, 39, 41
9.4	p. 656	1, 5, 9, 13, 15, 17, 19, 25, 29 – 43 odd, 47 – 55 odd
9.5	p. 662	5, 7, 11, 13, 17, 19, 21, 31
9.6	p. 669	1, 5, 17, 21, 35, 41
9.7	p. 674	3, 5, 11, 15, 21, 27