

## **Fall 2017 Intermediate Algebra, K137, 31801, M, W 8:00am – 9:15pm, room D215.**

**Professor James Chadic**

**Prerequisite:** Elementary Algebra Foundation, K095 with grade C or higher or placement by multiple measures.

**Text:** Elementary and Intermediate Algebra, by Stefan Baratto, Barry Bergman, Don Hutchison, 5<sup>th</sup> edition.  
Publisher: McGraw-Hill Education

**Course Description:** This course cultivates understanding and different representations of functions. The course covers linear, quadratic, exponential, rational, radical functions, equations and expressions and operations on them with emphasis on modeling and solving real world problems.

**Evaluations:** Quizzes, Homework – 15%, 4 Exams, each Exams – 15%, and final exam – 25%.

**Measurements:** Minimum averages for each letter grades:

A	93%	B+	87%	C+	77%	D+	67%
A-	90%	B	83%	C	73%	D	63%
B-	80%	C-	70%	D-	60%		

**Support Services:** T.A.S.C, peers, or me during my office hours or by appointment.

**Office Hours:** M W 9:30 – 10:30 am, T, R 12:30 – 1:30 pm, F 11:00 am- 12:15 pm **Room C132**  
**Email:** [jchadic@trcc.commnet.edu](mailto:jchadic@trcc.commnet.edu) **Office number: (860) 215 -9425**

**Class Cancellation:** In case of increment weather, check the college website for class cancellations or call 860-215-9000 for recorded message.

**Plagiarism and Academic Honesty:** At TRCC, we expect the highest standards of academic honesty. All students are expect to demonstrate integrity in the completion of their coursework. Academic integrity means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. Students who engage in plagiarism and other forms of academic misconduct will face academic and possibly disciplinary consequences. Academic sanctions can range from a reduced grade for the assignment to a failing grade for the course. From a disciplinary standpoint, an Academic Misconduct Report may be fill and a Faculty Hearing Board may impose sanctions such as probation, suspension or expulsion.

**MyCommNet Alert:** MyCommNet is a system that sends text messages and emails to anyone signed up in the event of a campus emergency. Additionally, TRCC sends messages when the college is delayed or closed due to weather. All students are encouraged to sign up for myCommNet Alert. A tutorial is available on the Educational Technology and Distance Learning Students page of the web site.

[http://www.trcc.comnet.edu/div\\_it/educationaltechnology/Tutorials/myCommNetAlert/MIR3.html](http://www.trcc.comnet.edu/div_it/educationaltechnology/Tutorials/myCommNetAlert/MIR3.html)

**Disabilities:** If you have a disability that may affect your progress in this course, please meet with a

Disability Service Provider (DSP) as soon as possible. Please note that accommodations cannot be provided until you provide written authorization from a DSP.

### **College Disabilities Service Provider:**

- Matt Liscum, Counselor he can be reach at (860) 215-9265, and his office is at Room A113. He will be able to provide service for people that has learning disabilities, ADD/ADHD, Autism Spectrum, and Mental Health Disabilities.
- Elizabeth Wilcox, Advisor, she can be reach at (860) 215-9289, and her office is at Room A113 as well. She will be able to help people with medical, mobility, and sensory disabilities.

**Digication Statement:** All students are required to maintain an online learning portfolio in Digication that uses the college template. Through this electronic tool, students will have the opportunity to monitor their own growth in college-wide learning. The student will keep his/her learning portfolio and may continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. Student work reviewed for assessment purposes will not include names and all student work will remain private and anonymous for college improvement purposes. Students will have the ability to integrate learning from the classroom, college, and life in general, which will provide additional learning opportunities. If desired, students will have the option to create multiple portfolios.

### **Board of Regents for Higher Education and Connecticut State Colleges and Universities Policy Regarding Sexual Misconduct Reporting, Support Services and Processes Policy:**

#### **Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:**

“The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking.”

#### **Title IX Statement of Policy:**

“Title IX of the Education Amendments Act of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students are protected by Title IX, regardless of their sex, sexual orientation, gender identity, part or full-time status, disability, race, or national origin, in all aspects of educational programs and activities.”

Please Report Student Incidents to: Edward A. Derr, Student Diversity and Title IX Coordinator  
Admissions Welcome Center \* Office A116  
574 New London Turnpike, Norwich CT 06360  
860.215.9255 \* [EDerr@trcc.commnet.edu](mailto:EDerr@trcc.commnet.edu)

## **Course Objectives:**

At the completion of MAT\*137, the student will be able to do the following —

### **Linear Functions**

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

### **Quadratic Functions and/or Expressions**

- 1) Provide multiple representations of quadratic functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
- 3) Evaluate, simplify, and perform operations on quadratic functions or expressions
- 4) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically
- 5) Solve real world applications involving quadratic equations and functions

### **Exponential Functions and/or Expressions**

- 1) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of exponential functions or expressions
- 3) Evaluate, simplify, and perform operations on exponential functions or expressions
- 4) Identify real world applications involving exponential functions and/or solve graphically

### **Rational Functions and/or Expressions**

- 1) Provide multiple representations of simple rational functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of rational functions or expressions
- 3) Evaluate, simplify, and perform operations on simple rational functions or expressions
- 4) Solve simple rational equations algebraically and/or graphically
- 5) Solve real world applications involving rational functions

## **Radical Functions and/or Expressions**

- 1) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
- 2) Determine identifying characteristics of radical functions or expressions
- 3) Evaluate, simplify, and perform operations on simple radical functions or expressions
- 4) Solve simple radical equations algebraically and/or graphically
- 5) Solve real world applications involving radical functions
- 6) Identify imaginary numbers

## **Course Content:**

### **Chapter 6.**

- Sec. 6.1 An introduction to factoring
- Sec. 6.2 Factoring special products
- Sec. 6.3 Factoring: trial and error
- Sec. 6.4 Factoring: The AC-method
- Sec. 6.5 Factoring strategies
- Sec. 6.6 Factoring and problem solving

### **Chapter 7.**

- Sec. 7.1 Roots and radicals
- Sec. 7.2 Simplifying radical expressions
- Sec. 7.3 Operations on radicals
- Sec. 7.4 Solving radical equations
- Sec. 7.5 Rational exponents
- Sec. 7.6 Complex numbers

### **Chapter 8.**

- Sec. 8.1 Solving quadratic equations
- Sec. 8.2 The quadratic formula
- Sec. 8.3 An introduction to parabolas
- Sec. 8.4 Quadratic equations and problem solving

### **Chapter 9.**

- Sec. 9.1 Simplifying rational expressions
- Sec. 9.2 Multiplying and dividing rational expressions
- Sec. 9.3 Adding and subtracting rational expressions
- Sec. 9.6 Rational equations and problem solving

### **Chapter 10.**

- Sec. 10.4 Exponential functions
- Sec. 10.7 Logarithmic and exponential equations

## Tentative HW assignments (Odd problems only):

**Course Outline, Schedule, Homework** (This is a guide only. Assignments and schedules may vary).

Section	Topic	Exercises
<b>Ch. 6</b>		
6.1	An Introduction to factoring	486/9, 13, 31, 39, 43, 59, 67, 71, 79, 82
6.2	Factoring special products	497/1, 6, 13, 23, 25, 43, 51, 53, 59, 60, 65, 69
6.3	Factoring: Trial and Error	507 & 508/17, 22, 43, 53, 54, 57
6.4		Factoring: The ac method 517
& 518/2, 15, 21, 31, 32, 38, 40, 59, 60, 78, 82		
6.5	Factoring strategies	524 & 525/1, 17, 23, 31, 43, 44, 53, 59, 77, 81
6.6	Factoring and problem solving	537 - 539/5, 10, 21, 35, 45, 53, 58, 72, 90
<b>Ch. 7</b>		
7.1	Roots and radicals	560 & 570/1, 9, 14, 38, 49, 50, 57, 58, 69, 72
7.2	Simplifying radical expressions	573/1, 2, 10, 26, 27, 41, 49, 71, 72
7.3	Operations on radicals	584 - 587/1, 6, 11, 20, 33, 58, 61, 67, 75, 89
7.4	Solving radical equations	593 & 594/4, 8, 9, 16, 26, 27, 40, 48
7.5	Rational exponents	603 & 604/1, 5, 6, 15, 23, 33, 46, 53, 65, 69
7.6	Complex numbers	611 & 612/1, 5, 11, 15, 27, 36, 40, 51, 55
<b>Ch. 8</b>		
8.1	Solving quadratic equations	633 - 635/1, 8, 11, 22, 34, 35, 46, 55, 63, 83
8.2	The quadratic formula	651 - 653/2, 5, 8, 21, 29, 46, 55, 72, 73
8.3	An introduction to parabolas	665 - 667/1, 2, 3, 9, 14, 21, 25, 35, 45
8.4	Quadratic equations and problem solving	678 - 679/1, 3, 6, 23, 31, 35, 37
<b>Ch. 9</b>		
9.1	Simplifying rational expressions	699 - 700/2, 10, 18, 25, 36, 48, 67, 74, 79
9.2	Multiply and divide rational expressions	710 - 711/2, 6, 11, 17, 28, 34, 37, 44
9.3	Adding and subtracting rational expressions	721 - 723/1, 11, 23, 33, 36, 43, 55, 60
9.6	Rational equations and problem solving	762 - 765/2, 3, 18, 25, 51, 61, 67, 81,
<b>Ch.10</b>		
10.4	Exponential functions	819 - 821/1, 2, 3, 10, 25, 37, 51, 59
10.7	Logarithmic and exponential equations	859 - 861/1, 2, 14, 21, 31, 39, 47, 53, 57

**Assignments DUE DATES:** Assignments such as quizzes, projects, homework, will be announce a week in advance. It is **your responsibility** to complete these assignments on time. **I will not accept LATE ASSIGNMENT, WITHOUT A PROPER REASON.**