

**Elementary and Intermediate Algebra, Fall 2015, 32294 Mat K137S, W, F 5:00pm – 6:15am, Room D215**

**F 4:00 am – 4:50am, Room D219**

**Instructor – AnneFay Sullivan**

**Pre-requisite:**      **Elementary Algebra Foundations MAT K095 or Elementary Algebra Intensive College Readiness MAT K095I**

**Text:**                      **Elementary and Intermediate Algebra – 5<sup>th</sup> Edition -- Baratto - Bergman**

**Course description: 4 CREDIT HOURS INTERMEDIATE ALGEBRA EMBEDDED**

This course is Intermediate Algebra with embedded computer developmental support. The 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.

**Measurements:**      Each test – 15%, ALEKS 20%, and final exam - 20%.  
Grade equivalents: A 93 – 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, N if the student completed less than 60% of work

**Attendance:**              It is very important that you attend **ALL** classes. Your attendance in the classroom, participation in classroom work /projects and preparation for each class is required and is essential to your success in the course.

**Support Services:**      Tutorial services. Meeting with me for an extra help.

**Office Hours:**              Immediately after class or by arrangement.  
E-mail: [asullivan@trcc.commnet.edu](mailto:asullivan@trcc.commnet.edu)

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

**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.

**Alert System:**              MyCommNet Alert 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(see the link below).

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

| <b>TRCC Disabilities Service Providers</b><br>Counseling & Advising Office<br>Room A-119 |                                                                                                                                                                            |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Matt Liscum</b><br>(860) 215-9265                                                     | <ul style="list-style-type: none"><li>• Physical Disabilities</li><li>• Sensory Disabilities</li><li>• Medical Disabilities</li><li>• Mental Health Disabilities</li></ul> |
| <b>Chris Scarborough</b><br>(860) 215-9289                                               | <ul style="list-style-type: none"><li>• Learning Disabilities</li><li>• ADD/ADHD</li><li>• Autism Spectrum</li></ul>                                                       |

**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

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

| <b>Section</b> | <b>Topic</b>                                  | <b>Exercises</b>                                    |
|----------------|-----------------------------------------------|-----------------------------------------------------|
| <b>Ch. 6</b>   | <b>9/2/15 – 9/16/15</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>Test #1 9/18/15</b>                        |                                                     |
| <b>Ch. 7</b>   | <b>9/23/15 – 10/7/15</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>Test #2 10/9/15</b>                        |                                                     |
| <b>Ch. 8</b>   | <b>10/14/15 – 10/28/15</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>Test #3 10/30/15</b>                       |                                                     |
| <b>Ch. 9</b>   | <b>11/4/15 – 11/18/15</b>                     |                                                     |
| 9.1            | Simplifying rational expressions              | 699 - 700/2, 10, 18, 25, 36, 48, 67, 74, 79         |
| 9.2            | Multiplying and dividing 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>Test #4 11/20/15</b>                       |                                                     |
| <b>Ch.10</b>   | <b>11/25/15 – 12/9/15</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          |

**FINAL EXAM 12/11/15**

## **Course Objectives and Outcomes.**

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

### **Mathematical Practices**

- 1) Make sense of problems and persevere in solving them.
- 2) Reason abstractly and quantitatively.
- 3) Construct viable arguments and critique the reasoning of others.
- 4) Model with mathematics.
- 5) Use appropriate tools strategically.
- 6) Attend to precision.
- 7) Look for and make use of structure.
- 8) Look for and express regularity in repeated reasoning