Syllabus (Fall 2019)

**MAT K137S – Intermediate Algebra Embedded**

**MW 1:30-2:45 , Room D221**

**W 3:00-3:50, D219**

**Course Information**

* **Instructor Information**

|  |  |
| --- | --- |
| Chris KmiecikOffice: C126Phone: (860)215-9507Email: ckmiecik@trcc.commnet.edu | Office Hours: MW: 3:00-4:00 TR: 12:00-1:00 F: By Appointment |

* **Course Description**

Prerequisite: MAT\* K095 or MAT\* K095I with a “C-#” or higher, or appropriate placement through multiple measures assessment process.

This course represents the Intermediate Algebra instruction with embedded support. The course cultivates understanding and different representations of functions. Topics covered include linear, quadratic, exponential, rational, radical functions, equations, and expressions and operations on them with emphasis on modeling and solving real world problems. A graphing calculator is required. Instructor will use a Texas Instrument calculator (TI-84). All sections of MAT\* K137S require the use of software.

* **Required Materials**
* Text: *Elementary and Intermediate Algebra* – 5th Edition -- Baratto – Bergman.
* Calculator: A graphing calculator is required. Instructor will use a Texas Instrument calculator (TI-84)
* ALEKS 360 software
* **Learning Outcomes**

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

1. **Factoring**
2. Factor monomials
3. Factor polynomials by grouping
4. Factor perfect square trinomials, difference of squares, sum/difference of cubes
5. Factor quadratics
6. **Quadratic Functions and/or Expressions**
7. Provide multiple representations of quadratic functions or expressions by hand and/or using technology
8. Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
9. Evaluate, simplify, and perform operations on quadratic functions or expressions
10. Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically
11. Solve real world applications involving quadratic equations and functions
12. **Radical Functions and/or Expressions**
13. Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
14. Determine identifying characteristics of radical functions or expressions
15. Evaluate, simplify, and perform operations on simple radical functions or expressions
16. Solve simple radical equations algebraically and/or graphically
17. Solve real world applications involving radical functions
18. Identify imaginary numbers
19. **Exponential Functions and/or Expressions**
20. Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
21. Determine identifying characteristics of exponential functions or expressions
22. Evaluate, simplify, and perform operations on exponential functions or expressions
23. Identify real world applications involving exponential functions and/or solve graphically
24. **Rational Functions and/or Expressions**
25. Provide multiple representations of simple rational functions or expressions by hand and/or using technology
26. Determine identifying characteristics of rational functions or expressions
27. Evaluate, simplify, and perform operations on simple rational functions or expressions
28. Solve simple rational equations algebraically and/or graphically
29. Solve real world applications involving rational functions
30. **Mathematical Practices**
31. Make sense of problems and persevere in solving them.
32. Reason abstractly and quantitatively.
33. Construct viable arguments and critique the reasoning of others.
34. Model with mathematics.
35. Use appropriate tools strategically.
36. Attend to precision.
37. Look for and make use of structure.
38. Look for and express regularity in repeated reasoning

**Grading**

* **Methods of Evaluation**
* **Unit Tests (50%)** – You will have 4 unit tests throughout the semester. Each test will be worth 15% of the grade and the lowest test only worth 5% of the grade. Test dates are indicated in the calendar. You will have reviews given out before tests. A review is meant to prepare you for the test, not be an exact replica of the test.
* **Final Exam (10%)** – All MAT K137 sections will take the departmental cumulative final exam. The exam will take place on the last day of class as indicated in the calendar.
* **Homework (30%)** – Homework will be divided into two categories: computer assignments (ALEKS) and hand-in assignments.
* ALEKS (20%)
* Hand-In Assignments (10%) – The two low
* **Classwork (10%)** – Attendance and participation in classwork is required to be successful in this class. Each class is worth three points. Points will be reduced if you do not show up on time, participate in all aspects of the class, use your cellphone in class, or work for the entire class time. Extra participation points are possible through extraordinary participation in class.
* **Grading Policies**
* **Late Work**: No late work will be accepted. Written homework that is due on a day you do not attend class cannot be turned in late. If you send a clear picture of the homework via email before the beginning of class, that will be sufficient.
* **Missed Work Make-Up Policy:** If you miss a class, you are responsible for getting the class notes, homework, and any other assignments from another student and completing that work by the next class.

Make-up exams may be given *with my prior consent*. If you must miss a test/exam, please speak with me before the date of the exam so that arrangements can be made for you to take the exam before the scheduled date of the exam.

* **Extra Credit:** There will be no extra credit assignments.
* **Letter Grade Equivalents**

|  |  |
| --- | --- |
| **Grade** | **Percent of Points Earned** |
| A | 94-100 |
| A- | 90-93 |
| B+ | 87-89 |
| B | 84-86 |
| B- | 80-83 |
| C+ | 77-79 |
| C | 74-76 |
| C- | 70-73 |
| D | 64-69 |
| D- | 60-63 |
| F | Below 65 |
|  |  |

**Classroom Policies**

* **Attendance:** Attendance and participation in classwork is required to be successful in this class. Students with a known conflict with class will make the instructor aware of such conflict prior to missing a class. Accommodations will be made for students with a reasonable excuse (e.g., religious holidays, extra-curricular activities, and emergencies). If the instructor is not notified in advance, it will be treated as an absence.
* **Communication:** All communication will occur by email. Please make sure that you check your TRCC email or set it up to forward to another account. Check your email regularly to be informed of any changes in schedule.
* **Class Cancellation:**

**If school is cancelled**, notification of cancellation due to inclement weather will be available by telephone by 6:00 am for daytime classes and by 2:30 pm for evening classes by calling the College's main telephone at (860) 215-9000, pressing 1, and listening to the taped announcement. The College’s website will also have announcements available by accessing the www.threerivers.edu home page. The myCommnet Alert Notification System will also be used to deliver important information regarding weather-related class cancellations, via both email messages and text messages, to registered individuals. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

**If class is cancelled by the instructor**, a notice will be placed on the classroom door. If time permits, students may be notified by a message via email.

* **Withdrawal Policy:** You may withdraw from this class any time up to and including November 5 and you will receive a W grade on your transcript. However, you must complete a withdrawal form in the Registrar’s Office at the time of withdrawal; *if you merely stop attending classes you will be assigned a grade of F*. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

If you decide to withdraw, it is highly recommended you continue to participate in class to get some exposure to the material and be that much further ahead the next time you take this course. The instructor will continue grading your work, but that grade will not count. It is a no-stress way for you to take away more of the class.
* **Academic Integrity:** The effective operation of any organization is dependent on the honesty and goodwill of its members. In an organization devoted to the pursuit of knowledge, acting with integrity is essential to effective teaching and learning. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. To emphasize the importance of academic integrity, Three Rivers Community College adheres to the Student Code of Conduct and Discipline Policy, as provided by the Connecticut State Colleges and Universities (CSCU) - Board of Regents for Higher Education. (Please refer to BlackBoard for the complete statement.)

**Some** of the behaviors that will be considered cheating are:

* + Communicating with another student during a quiz or exam
	+ Copying material from another student during a quiz or exam or from any assignment being graded
	+ Allowing another student to copy from your quiz, exam, or any assignment being graded
	+ Use of unauthorized assistance on any assignment being graded
	+ Use of unauthorized notes or books during a quiz or exam
	+ Providing or receiving a copy of a quiz or exam used in the course
	+ Use of a cell phone or pager to transmit information during a quiz or exam

**IF IN DOUBT, ASK.**

Professionalism and respect are demonstrated through a clear understanding of what is yours and what you learned from others. Be proud for your accomplishments; respect those of others.

**Getting Help**

* Tutoring and Academic Support Center
* Peer tutoring
* Extra help from the instructor (before or after class or by appointment)

**School Policies**

Please refer to BlackBoard or the TRCC website for a link to the entire policy.

* **Digication:** All students are required to maintain an electronic portfolio using the College template within Digication. Digication can be accessed at https://threerivers.digication.com.
* **Disability:** Three Rivers Community College (TRCC) is committed to the goal of achieving equal educational opportunity and full participation for individuals with disabilities. To this end, TRCC seeks to ensure that no qualified person is excluded from participation in, is denied the benefit of, or otherwise is subjected to discrimination in any of its programs, services, or activities.

Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at mliscum@trcc.commnet.edu. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at ewillcox@trcc.commnet.edu to facilitate accommodations.

All testing accommodations MUST be discussed with the instructor at least one to two class meetings prior to any scheduled test for which accommodations are needed.
* **Non-discrimination:** Three Rivers Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression, or genetic information in its programs and activities.
* **Sexual Misconduct:** The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to ensuring 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 clause:** “Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX 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 (as well as other persons) at recipient institutions 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 a recipient’s educational programs and activities.”

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact the Diversity Officer and Title IX Coordinator: 860-215-9208 (mkrug@trcc.commnet.edu)

**Tentative Schedule**

This is the tentative schedule – instructor reserves the right to change dates throughout the semester. Specific homework will be assigned in class.

| **Week** | **Sec.** | **Topics** | **Problems pg./Problem Numbers** |
| --- | --- | --- | --- |
| 26 Aug. |  | Course Introduction |  |
| 2 Sep. | 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  |
| 9 Sep |  | 9 Sep: Last day to drop and partial refund |
|  | 6.3  | Factoring: Trial and Error | 507 & 508/17, 21, 43, 53, 54, 57, 59  |
|  | 6.4  | Factoring: The ac method  | 517 & 518/1, 15, 21, 31, 37, 59, 61, 77, 85 |
|  | 6.5 | Factoring strategies | 524 & 525/1, 17, 23, 31, 43, 44, 53, 59, 77, 81 |
| 16 Sep | 6.6 | Factoring and problem solving | 537 - 539/5, 10, 21, 35, 45, 53, 58, 72, 90 |
|  | 7.1 | Roots and radicals  | 560 & 570/1, 9, 14, 38, 49, 50, 57, 58, 69, 72 |
| 23 Sep | 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 |
|  |  | 24 Sep: Last day to select Audit option |
| 30 Sep |  | **\*\*\*\*\*\* Test #1 – 2 Oct \*\*\*\*\*** |
| 7 Oct | 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, 59 |
| 14 Oct | 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 |
| 21 Oct |  | **\*\*\*\*\*\* Test #2 – 23 Oct \*\*\*\*\*** |
| 28 Oct | 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 |
| 4 Nov |  | **\*\*\*\*\*\* Test #3 – 6 Nov. \*\*\*\*\*** |
|  |  | **5 Nov**: Last day to withdraw from class; last day to select P/F |
| 11 Nov | 9.1  | Simplifying rational expressions | 699 - 700/2, 10, 18, 25, 48, 67, 74, 81 |
|  | 9.2  | Multiplying and dividing rational expressions | 710 - 711/2, 6, 11, 17, 27, 33, 37, 43 |
| 18 Nov | 9.3  | Adding and subtracting rational expressions | 721 - 723/1, 11, 23, 33, 31, 43, 55, 59 |
|  | 9.6  | Rational equations and problem solving | 762 - 765/1,5, 9, 13, 15, 17, 25, 51, 55, 61, 67, 81, 83 |
|  | 10.4 | Exponential functions  | 819 - 821/1, 2, 3, 11, 25, 37, 51, 59 |
| 25 Nov | 10.7 | Logarithmic and exponential equations  | 859 - 861/1, 3, 5, 17, 21, 25, 31, 39, 47, 53, 57 |
| 2 Dec |  | **\*\*\*\*\*\* Test #4 – 4 Dec.\*\*\*\*\*** |
| 9 Dec |  | **\*\*\*\*\*\* Comprehensive Final 11 December \*\*\*\*\*** |