## Math 137 Syllabus for Spring 2012

## **Three Rivers Community College**

**Course:** Intermediate Algebra (Mat\*137 T9)

**CRN:** 10905

Location/Times: Room D221, 11:00 - 12:15 Tuesday and Thursday

Prerequisites: Math 095 with a grade of C or better OR acceptable placement score

Instructor: Gary Hoyt

Office/Hours: D205 (Adjunct offices), 10:15 --10:45 Tue and Thr or by appointment

Email: <a href="mailto:ghoyt@trcc.commet.edu">ghoyt@trcc.commet.edu</a>

**Phone:** 860-887-3692

**Course Description:** A graphing calculator is required. Instructor will use a Texas Instrument calculator (TI84). This course continues the development of algebraic skills and concepts. The topics include: linear equations, functions and graphs, applications of systems of equations, inequalities, rational expressions and equations, operations of radicals and rational exponents, quadratic equations, exponential and logarithmic functions.

**Textbook:** Intermediate Algebra – Functions and Authentic Applications by Jay Lehmann (4<sup>th</sup> Edition).

Attendance: It is expected that students will make every effort to attend all classes. If it should be necessary to miss a class, the student is responsible for the missed material as well as the assignment that was given.

**Homework:** Homework will be an integral part of this course. It is essential that you attempt all assignments and that you keep these assignments in a notebook that is dedicated solely to math homework. It will not be possible to reach your potential in this class without doing the homework on a regular basis. It is also recommended that you record the material presented in class in a separate notebook, not mixing pages of homework with pages of notes.

**Calculators:** A graphing calculator is required in this class; a TI83 or TI84 is recommended. They will be necessary for many of the homework assignments as well as for the chapter tests. You should bring your calculator to every class.

**Cell Phones:** Cell phones can not be used as calculators and should not be evident during class. Please turn all cell phones off as you enter the room. If there are extenuating circumstances please see me and we will discuss the matter.

**Withdrawal from Class:** Students may withdraw in writing at the Registrar's Office. The last day to withdraw from classes this semester is May 7, 2012.

**Extra Help:** Three Rivers CC offers free tutoring through the Tutoring Academic Success Center (TASC), located in room C-117. Peer tutoring and peer study groups are available. Students may also see me during my regularly scheduled office time of by appointment as well.

**Class Cancellation:** If school is cancelled, delayed or closing early, announcements will be made on the local radio and television stations. The school web site will also be used to make such announcements. (<u>www.trcc.commnet.edu</u>) Additionally, students may register to receive notification through the myCommNet Alert notification system. Notification will be sent via email and text message to those who are registered. To register, log in at <u>http://my.commnet.edu/</u> and follow the myCommNet Alert link. You may also call the College's main telephone at 886-0177, press 1, and listen to the taped announcement.

If I find it necessary to cancel class, I will email all of you with as much advance notice as possible. I will use the email addresses that are on my class roster. I will send an email later today containing a 14 page trigonometry handout. Please check your email for the handout and print it. Let me know during the next class if you did not get the handout. Email addresses can be updated by going to Student Services in the A-1 wing.

**Disabilities Statement:** Students with a documented disability are provided supportive service and accommodations to assist them with their academic objectives. Services are strictly confidential. Disability services may include individualized accommodations, advising, advocacy, counseling, technical assistant and referral information. Accommodations cannot be given unless I receive notification from the Disabilities Counseling Service (383-5240). It is the student's responsibility to secure this assistance where appropriate.

**Instructor Discretionary Days:** There are no instructor discretionary days on the Spring 2012 calendar before the end of the semester on May 14<sup>th</sup>.

**Academic Honesty:** Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to succeed in the classroom and beyond. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. In this class and in the course of your academic career, present only your own best work and act at all times with honor.

**Tests:** There will be five unit tests and a final exam in this course. **All tests must be taken at the regularly scheduled time.** A missed test will result in a grade of a 0 for that test unless **extremely** extenuating circumstances are **proven** to be present. Anyone who feels that such circumstances exist (causing them to miss a test) needs to communicate that to me as soon as possible. Please do not miss a test unless it is absolutely unavoidable.

**Grading Procedure:** Each unit test will carry a weight of 100 points and the final exam will be worth 200 points. Attendance will be worth 100 points as well thus there will be a total of 800 points available for the semester. Your final grade will be the percentage of points earned compared to the total (800) points available.

CLASS AVERAGE	FINAL GRADE
90 - 92 / 93 - 100	A- / A
80 - 82 / 83 - 86 / 87 - 89	B- / B / B+
70 - 72 / 73 - 76 / 77 - 79	C- / C / C+
60 - 62 / 63 - 66 / 67 - 69	D- / D / D+
Below 60	F

## COURSE OUTCOMES

- 1. Factor an algebraic expression using a combination of greatest common factor, difference of two squares, sum or difference of two cubes, and/or trinomial factoring.
- 2. Use factoring procedures to solve equations and problems.
- 3. Solve compound linear inequalities of the form C<ax + b <d. Express answer algebraically, graphically, and using interval notation.
- 4. Isolate a particular variable in a literal equation.
- 5. Use quadratic formula to find exact values of a quadratic equation with irrational or imaginary solutions. Approximate the irrational solutions.
- 6. Solve basic exponential and logarithmic equations.
- 7. Evaluate basic logarithmic expressions, and convert between logarithmic and exponential form.
- 8. Solve an exponential equation that requires the use of logarithms.
- 9. Graph a quadratic function by finding the vertex, x- and y-intercepts.
- 10. Relate the discriminant in the quadratic formula to the graph of a parabola.
- 11. Graph a basic exponential or logarithmic function.
- 12. Know the graphical relationship between exponential and logarithmic functions.
- 13. Express the slope as a rate of change using appropriate units.
- 14. Write the equation of a linear function given data. Use functional notation in the answer.
- 15. Write the equation of an exponential function given data. Use functional notation in the answer.
- 16. Solve a 2 x 2 and 3 x 3 system of equations.
- 17. State the domain of linear, quadratic, exponential and logarithmic functions.
- 18. Evaluate functions using numerical and algebraic values.
- 19. Identify domain (inputs) and range (outputs) graphically for basic functions.
- 20. Interpret functional notation in a variety of application problems.
- 21. Determine if a relation is a function by looking at a graph, table, or equation.
- 22. Solve a rational equation and check for extraneous solutions.
- 23. Solve a radical equation that produces a second-degree equation. Check for extraneous solutions.
- 24. Know and apply the rules of integer and fractional exponents
- 25. Add, subtract, multiply, divide rational expressions. Reduce the answers.
- 26. Simplify a complex fraction.
- 27. Know the meaning of rational exponents and their relationship to radical form.
- 28. Simplify radical expressions with emphasis on cube roots and lower.
- 29. Rewrite radical expressions by rationalizing numerator or denominator.
- 30. Add, subtract, multiply, and divide radical expressions.
- 31. Solve application problems involving the Pythagorean Theorem.
- 32. Given a quadratic model, find and interpret the maximum or minimum values, and the intercepts.
- 33. Solve an application problem involving quadratic equations.
- 34. Solve an application problem that involves rational expressions.
- 35. Solve an application problem involving a given exponential or logarithmic model.
- 36. Solve applications involving linear systems.
- 37. Find the six trigonometric values of an acute angle
- 38. Solve triangles using right triangle trig, distinguish between the angle of depression and elevation.
- 39. Solve applied problems using right triangle trigonometry

## **TENTATIVE CLASS SCHEDULE**

Th	1/19	Functions	1.6
Т	1/24	Linear Functions	2.1-2.3
Th	1/26	Trigonometry	Handout
Т	1/31	Trigonometry	Handout
Th	2/2	No class (college professional day)	
Т	2/7	Systems of Linear Equations	3.2-3.3
Th	2/9	TEST #1 (CH. 1– 3 & TRIG)	
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Т	2/14	Exponential Functions	4.1-4.2
Th	2/16	Exponents Functions continued	4.3-4.5
Т	2/21	Logarithmic Functions	5.2-5.3
Th	2/23	Logarithmic Functions continued	5.4-5.6
Т	2/28	TEST #2 (CH. 4 – 5)	
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Th	3/1	Polynomial Functions	6.1-6.2
T	3/6	Polynomial Functions continued	6.3-6.4
Th	3/8	Polynomial Functions continued	6.5-6.6
Т	3/13	TEST #3 (CH.6)	
Th	3/15	Quadratic Functions	7 1-7 2
111	3/19	8 = 3/25 Spring Break $=$ No Classes	/.1 /.2
т	3/27	Quadratic Functions continued	73&75
Th	3/29	Quadratic Functions continued	7.5@7.5
Т	3/2) 4/3	TFST #4 (CH 7)	7.0-7.7
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Th	4/5	Rational Functions	8.1-8.2
Т	4/10	Rational Functions continued	8.3
Th	4/12	Rational Functions continued	8.5-8.6
Т	4/17	TBA	
Th	4/19	TBA	
Т	4/24	Radical Functions	9.1-9.2
Th	4/26	Radical Functions continued	9.5
Т	5/1	Review (CH. 8–9)	
Th	5/3	TEST #5 (CH. 8 – 9)	
Т	5/8	EXAM REVIEW	
Th	5/10	FINAL EXAM	
Т	5/15	To be used as needed	