

MATH 103, INTERMEDIATE ALGEBRA (prerequisite is Math 201 or equivalent),  
RC, MR. PAUL KRYDER (instructor) [no office at RC, home phone is 637-0051,  
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**WELCOME TO MATH 103.** The objective of this course is for you to learn the fundamental concepts and techniques of intermediate algebra, including (but not necessarily limited to) equations (polynomial and absolute value), inequalities, systems of equations, functions, roots and radicals, exponential and logarithmic functions and equations, conic sections, [if time] sequences and series, and meaningful applications of much of the above.

**S15 SPECIFIC INFORMATION:** The M/W section (55645) meets 6 - 8:15 pm (with 10-minute break) in CCI-200 [review for final exam is 05-18 (M), 7 - 8:50 am, [final exam is 05-20 \(W\), 6 - 7:50 pm](#), My Math Lab Course ID is [kryder14561](#)], the Tu/Th section (55290) meets 8 - 10:15 am (with 10-minute break) in SOC-31 [review for final exam is 05-18 (M), 6 - 7:50 pm, [final exam is 05-21 \(Th\), 8 - 9:50 am](#), My Math Lab Course ID is [kryder60891](#)]. The two sections will NOT always be on the same track, so attending the section you are not enrolled in, on any given day, really will NOT work. *When registering for My Math Lab, please be SURE that your name appears EXACTLY the way it does in the RC records—NO nicknames please !!!*

Special Note, M/W Section, S15: On 05-13 (W), the last regular class of the semester for the M/W class, that section will meet 6:45 - 9 pm in lieu of the usual time, due to partial conflict with one of my CSUF class' final exams.

Learning Outcomes: Upon successful completion of this course, the student shall be able to: (1) solve linear and absolute value equations and inequalities in one variable, and express the solution set of an algebraic inequality in one variable in algebraic, graphical, and interval notation forms, (2) solve  $2 \times 2$  and  $3 \times 3$  systems of linear equations, (3) evaluate and simplify radical expressions, (4) use rational exponents, and simplify expressions involving rational exponents, (5) convert from radical form to exponential form and vice-versa, (6) perform basic operations on radical expressions (add, subtract, multiply, divide), (7) solve radical equations, (8) understand what a complex number is and know how to do basic operations (add, subtract, multiply, divide) with complex numbers, (9) solve quadratic equations by extracting square roots and completing the square, (10) solve quadratic equations by using the quadratic formula, (11) graph parabolas, (12) solve quadratic and rational inequalities, (13) understand what a function is, (14) graph polynomial functions by using knowledge of transformations and their effects on the graph, (15) do the algebra of functions and use function notation, (16) do compositions of functions, (17) find the inverse of a function given in roster form and in equation form, (18)

determine whether two given functions, given in equation form, are inverses of each other by using the Property Of Composition Of Inverse Functions, (19) evaluate and graph exponential and logarithmic functions, (20) understand what a logarithm is, (23) convert from exponential to logarithmic form and vice-versa, (24) expand and condense logarithmic expressions by using the properties of logarithms, (25) solve exponential and logarithmic equations, (26) graph circles, ellipses, and hyperbolas from their equations, (27) convert the general form of the equation of a conic to standard form by completing the square, and identify whether it is a parabola, circle, ellipse, or hyperbola, (28) solve nonlinear systems of equations, (29) expand powers of binomials by using the Pascal's Triangle method, and (30) use many of the above skills to do meaningful applications (e.g. word exercises) requiring algebraic techniques.

Math 103 Tentative Schedule Of Topics (32 instructional days, **S15 M/W Class**)

Day 1: Opening business, Sec. 8.1 (linear and absolute value equations)

Day 2: Sec. 8.2, 8.3 (linear and absolute value inequalities; graphing linear functions)

Day 3: Sec. 8.4 (review of factoring; quadratic and rational equations)

Day 4: Sec. 8.5 (solving 2 by 2 and 3 by 3 systems of linear equations by algebra)

Day 5: UNIT 1 EXAM

Day 6: Sec. 9.1, 9.2 (square roots, higher roots, radical notation; rational exponents)

Day 7: Sec. 9.2 *cont'd*, 9.3 (rational exponents; simplifying, adding, subtracting radical expressions)

Day 8: Sec. 9.4 (simplifying, multiplying, dividing radical expressions)

Day 9: Sec. 9.5 (radical expressions and applications)

Day 10: Sec. 9.6 (complex numbers)

Day 11: UNIT 2 EXAM

Day 12: Sec. 10.1, 10.2 (solving quadratic equations by factoring, extracting square roots, completing the square; the quadratic formula)

Day 13: Sec. 10.3 (equations quadratic in form)

Day 14: Sec. 10.4 (graphing parabolas)

Day 15: Sec. 10.5 (applications of quadratic equations)

Day 16: UNIT 3 EXAM

Day 17: Sec. 11.1, 11.2, 11.3 (review of functions; linear functions; quadratic functions)

Day 18: 11.3 *cont'd*, 11.4 (graphing quadratic functions by transformations; graphing cubic and square root functions by transformations)

Day 19: Sec. 11.5 (the algebra of functions)

Day 20: Sec. 11.6 (inverse functions)

Day 21: UNIT 4 EXAM

Day 22: Sec. 12.1 (exponential functions)

Day 23: Sec. 12.2 (logarithmic functions)

Day 24: Sec. 12.3 (properties of logarithms)

Day 25: Sec. 12.4 (exponential and logarithmic equations)

Day 26: Sec. 12.5 (applications of exponential and logarithmic equations)

Day 27: UNIT 5 EXAM

Day 28: Sec. 13.2, 13.3 (distance and midpoint formulas, graphing circles; graphing ellipses)

Day 29: Sec. 13.3 *cont'd*, 13.4 (graphing ellipses; graphing hyperbolas)

Day 30: Sec. 13.5 (nonlinear systems of equations, applications)

Day 31: Sec. 13.5 *cont'd*, 14.4 (nonlinear systems of equations, applications; expanding positive integer powers of binomials by the Pascal's Triangle method)

Day 32: UNIT 6 EXAM

**Math 103 Tentative Schedule Of Topics (34 instructional days, S15 Tu/Th Class)**

Day 1: Opening business, Sec. 8.1 (linear and absolute value equations)

Day 2: Sec. 8.2, 8.3 (linear and absolute value inequalities; graphing linear functions)

Day 3: Sec. 8.4 (review of factoring; quadratic and rational equations)

Day 4: Sec. 8.5 (solving 2 by 2 and 3 by 3 systems of linear equations by algebra)

Day 5: Sec. 8.6 (solving 2 by 2 and 3 by 3 systems of linear equations by matrix methods)

Day 6: UNIT 1 EXAM

Day 7: Sec. 9.1, 9.2 (square roots, higher roots, radical notation; rational exponents)

Day 8: Sec. 9.2 *cont'd*, 9.3 (rational exponents; simplifying, adding, subtracting radical expressions)

Day 9: Sec. 9.4 (simplifying, multiplying, dividing radical expressions)

Day 10: Sec. 9.5 (radical expressions and applications)

Day 11: Sec. 9.6 (complex numbers)

Day 12: UNIT 2 EXAM

Day 13: Sec. 10.1, 10.2 (solving quadratic equations by factoring, extracting square roots, completing the square; the quadratic formula)

Day 14: Sec. 10.3 (equations quadratic in form)

Day 15: Sec. 10.4 (graphing parabolas)

Day 16: Sec. 10.5 (applications of quadratic equations)

Day 17: UNIT 3 EXAM

Day 18: Sec. 11.1, 11.2, 11.3 (review of functions; linear functions; quadratic functions)

Day 19: 11.3 *cont'd*, 11.4 (graphing quadratic functions by transformations; graphing cubic and square root functions by transformations)

Day 20: Sec. 11.5 (the algebra of functions)

Day 21: Sec. 11.6 (inverse functions)

Day 22: UNIT 4 EXAM

Day 23: Sec. 12.1 (exponential functions)

Day 24: Sec. 12.2 (logarithmic functions)

Day 25: Sec. 12.3 (properties of logarithms)

Day 26: Sec. 12.4 (exponential and logarithmic equations)

Day 27: Sec. 12.5 (applications of exponential and logarithmic equations)

**Day 28: UNIT 5 EXAM**

Day 29: Sec. 13.2, 13.3 (distance and midpoint formulas, graphing circles; graphing ellipses)

Day 30: Sec. 13.3 *cont'd*, 13.4 (graphing ellipses; graphing hyperbolas)

Day 31: Sec. 13.5 (nonlinear systems of equations, applications)

Day 32: Sec. 13.5 *cont'd*, 14.4 (nonlinear systems of equations, applications; expanding positive integer powers of binomials by the Pascal's Triangle method)

Day 33: Sec. 10.6 (polynomial and rational inequalities)

**Day 34: UNIT 6 EXAM**

Students with disabilities should see me privately for all special arrangements.

Textbook (not essential to bring to class): *Elementary and Intermediate Algebra*, 3<sup>rd</sup> edition, by Woodbury. You are NOT required to purchase the bundled version of the textbook as the My Math Lab assignments will be optional and extra credit, but you may do so if desired. My Math Lab access can also be purchased separately online with a credit card or in the bookstore via a MML Access Code Kit. We will cover chapters 8 - 13, plus section 14.4, generally in order. [Unit 1 = chapter 8 + App. A-2 (Tu/Th class only), unit 2 = chapter 9, unit 3 = chapter 10 (except 10.6), unit 4 = chapter 11, unit 5 = chapter 12 (except 12.6), unit 6 = chapter 13 + 14.4 + 10.6 (Tu/Th class only)]. There is an optional solution manual to the textbook.

Other required materials: To all classes, please bring sufficient paper for note-taking, a writing instrument, a scientific or graphing calculator (the TI 30X-IIS is the calculator of choice), graph paper, and a ruler. (If you use a mechanical pencil, please bring plenty of extra leads.) **PLEASE BE SELF-SUFFICIENT—IT IS INCREDIBLY ANNOYING AND DISTRACTIVE WHEN STUDENTS COME TO CLASS WITHOUT PROPER MATERIALS, AND THEN HAVE TO “BUM” FOR THEM FROM ME OR FROM OTHER STUDENTS!! BE RESPONSIBLE AND COME TO CLASS PREPARED.**

Exams, quizzes: Exams will be announced at least 1 week in advance. 6 unit exams plus 1 comprehensive final exam planned, with the final exam score recorded twice as 2 identical scores. Each exam score is a “maximum” 100 points. 1 new large blue book required for each exam—purchase in bookstore for a few cents. Quizzes will typically be short and unannounced ahead of time, and will be used to “enhance” exam scores. (I will no longer accept frayed-edge paper for quizzes, so be sure to bring at least a few sheets of 8.5” by 11” paper with smooth edges to each class to do your quizzes on.) **NO makeup quizzes EVER given; only persons present in class at**

the START of a quiz may take that quiz.

Textbook homework and homework policies are given in the Textbook Homework List; homework\_points will also be used to “enhance” exam scores. Homework for each unit is due on the day you take the exam for that unit and will NOT be accepted late for ANY reason.

Online Homework: Online homework is optional via My Math Lab. You may do either the online homework or the textbook homework or both; all are bonus points and it IS possible to get more points by doing both than by doing just one or the other. To register for My Math Lab, go to [www.mymathlab.com](http://www.mymathlab.com) and register using the course ID (listed near the top of the 1<sup>st</sup> page of this syllabus) AND using the access code that comes with your textbook (or if you did not purchase the textbook with access code you may buy an access code online with a credit card). The advantage of online homework is that it is interactive and gives you instant feedback.

Early/Late Exams: Exams may NOT be taken early; the first time you miss an exam it must be your drop exam unless the miss is due to (1) a RC conflict, (2) military service, or (3) jury duty/court summons. *(In any of these cases written documentation must be provided to enable you to take a makeup exam on the first missed exam.)* On the 2<sup>nd</sup> missed exam and thereafter you may take a makeup exam with a reasonable excuse subject to verification at my discretion. PLEASE TRY TO AVOID MISSING EXAMS—MAKEUP EXAMS ARE A NUISANCE AND INCREDIBLY TAXING ON ME !!

Cheating on any exam or quiz will NOT be tolerated and will be dealt with according to the RC\_policy on cheating and plagiarism—see the RC catalog for details.

Semester grades: Semester grading scale is as follows:  $F < 60\% \leq D < 68\% \leq C < 80\% \leq B < 91\% \leq A$ . Your total number of points from all exams, except your lowest single exam score, will be calculated and compared to this scale to determine semester grade. *Once the semester is over, NO additional work may be done to raise your grade.*

Incompletes: Given only for the most extreme, serious, and unexpected (and well-documented)\_circumstances (e.g. automobile accident, serious illness, death in the immediate family) and will NOT be used merely to “bail you out” of getting a bad grade. If you do get my approval to take an incomplete, everything you have done up to the point of your leaving the class must count and may NOT be repeated.

Outside help: Available free of charge on a drop-in basis from RC instructors in the STEM Center in FEM 1 and in the Tutorial Center in the library from qualified student tutors. Please contact these centers for their hours and to find when they start up.

Expected: That you attend ALL classes **ON TIME**, with **PROPER MATERIALS**, and **READY TO LEARN** and **BE ON-TASK**. Also that you **DO YOUR HOMEWORK ON TIME**, and **PROPERLY PREPARE FOR ALL EXAMS**. Finally, that you **GET OUTSIDE HELP IN A TIMELY MANNER IF YOU NEED IT**.

Not allowed in class, ever: Rude or distractive behavior, abuse of others' property, babies or very young children, the use of cell phones or pagers or any kind of earphone device (e.g. MP3 players), or use of ANY kind of tobacco product (RC rule).

Blackboard use: Important announcements, class lecture notes, documents (e.g. practice exams, assignment sheets, content sheets), and student grades (to access grades, first click on "tools & grades") will be posted for this course on Blackboard (Bb), which is easily accessible for any enrolled RC student with a student ID # and internet access (to log into Bb, go to [www.reedleycollege.edu](http://www.reedleycollege.edu), then click on Blackboard, then proceed, using your Reedley College ID as both your username and password).

*(If you do not have a computer and/or a printer at home, that is no problem—numerous computer labs with internet access and printers exist on campus for your use; for example, in the library. You are NOT required to EVER "print up" anything for this class. All worksheets to be turned in will be handed out in class. Practice exams and in-class reviews are NOT part of the hand-in homework and thus need NOT be printed up.)*

Please check the class Bb site often for new announcements and documents.

**RC S15 Academic Calendar (not specific to this class, but required to be on syllabi)**

November 3 (M) Spring 2015 registration begins for continuing students  
November 11 (T) Veterans Day holiday (no classes held, campus open)  
November 27-28 (Th-F) Thanksgiving Day Holiday (no classes held, campus closed)  
December 8-12 (M-F) Fall 2014 final exams week  
January 2 (F) Campus re-opens after Winter Break  
January 12 (M) Spring 2015 instruction begins  
January 12 - March 13 (M-F) Spring 2015 short-term classes, first nine weeks  
January 19 (M) Martin Luther King, Jr. Day observed (no classes held, campus closed)  
January 23 (F) Last day to request an Enrollment Fee Refund  
January 30 (F) Last day to add a full-term class for Spring 2015  
January 30 (F) Last day to drop a full-term class to avoid a "W" (in person) for Spring 2015  
February 1 (SU) Last day to drop a full-term class to avoid a "W" (on WebAdvisor) for Spring 2015  
February 6 (F) Last day to change a class to/from a Pass/No-Pass grading basis  
February 13 (F) Lincoln Day observed (no classes held, campus closed)  
February 16 (M) Washington Day observed (no classes held, campus closed)  
March 13 (F) Last day to drop a full-term class (in person) (letter grades assigned after this date)  
March 16 - May 22 (M-F) Spring 2015 short-term classes, second nine weeks  
March 27 (Th) Deadline to file Intent to Graduate via WebAdvisor  
March 30 - April 2 (M-Th) Spring Recess (no classes, campus open)  
April 3 (F) Spring Holiday observed (no classes, campus closed, classes reconvene April 6)  
May 18-22 (M-F) Spring 2014 final exams week  
May 22 (F) End of spring semester/commencement