Jefferson College Mathematics Department Adjunct Faculty Handbook

✎ Welcome!

Welcome to the Jefferson College Faculty. The Mathematics Department recognizes and appreciates the valuable contribution that you make to Jefferson College. The faculty, administration, and support staff are ready and willing to support you in your efforts. Please feel free to contact any of us with your needs, questions and concerns. (See p.8 for a list of the full-time math faculty and division chair.)

This handbook is intended to supplement the Adjunct Faculty Handbook that you have already been given (current edition available on MyJeffco Faculty tab). It contains a summary of what the Mathematics Department is expecting of you, and the assistance and resources that we are offering for you.

✎ Syllabi

You are required to submit a syllabus for each section of each course you are teaching. The syllabus is an important document that informs the student of exactly what to expect during the semester, and exactly what is expected of them. ***Please send a (hard or soft) copy of your syllabus to the division chair prior to the first meeting of your class.***

To assist you in developing your syllabi, the Math Department Blackboard page contains links to the official course syllabus and samples of class syllabi for each course that you can customize for your own class. You don't need to use this format, but you are welcome to.

✎ MyMathLab Information

ALL algebra sections will be required to use MyMathLab, an online mathematics homework, learning, and assessment program through Pearson Education. If you're not familiar with it, MML…

- Provides students with immediate feedback on their homework
- Walks students through the problem step by step, if they still need help
- Provides videos and animations for the concepts discussed in class
- Provides multiple chances to rework homework questions
- Provides an algorithmically generated similar exercise after three incorrect attempts at a homework problem
- Provides you with as much data as you want about students' performance (including scores, date and time they worked each problem, time spent on each section, etc.)
- Allows you to give timed online quizzes with randomly generated numbers, so no two quizzes are the same
- Provides online access to the online multimedia textbook, so that you and the students don't have to carry around a hard copy

To set up your MML course, you will need to copy the departmental coordinator course ID for Beginning, Intermediate or College Algebra. These course IDs will be emailed to all instructors.

> *NOTE: For additional sections, you cannot just copy your own course since we want all sections to be members of a master course. You must recopy the coordinator ID for each section.*

The homework assignments set up in the departmental courses in MML must be included and cannot be changed. However, if you want to add in additional work, you are certainly welcome to add your own MML or textbook assignments as well as any worksheets or projects.

The department began coordinating MML assignments in Fall 2012. We have continued to assess and edit all assignments as we go forward. Our goals include promoting consistency of content and gathering course-level assessment results. Your participation and feedback is important!

❧ Calculator Policy

The math faculty has agreed to common guidelines for calculator use, which should be adhered to in all classes. They are:

Beginning Algebra – Calculators may not be used during evaluation. Their use on homework cannot be monitored, but should be discouraged as the student needs to be able to perform the skills without the aid of a calculator.

> *Note: If you have a student who has accommodations as arranged through the office of Disability Support Services, contact Christine Platter, (cplatter@jeffco.edu, 636-481-3169) to clarify any issues regarding calculator accommodations for those specific students.*

Intermediate Algebra – Scientific calculators are recommended. Graphing calculators may be permitted, or not, at the discretion of the individual instructor.

College Algebra – Graphing calculators are required. We recommend (and support) the use of the Texas Instruments TI-83 or TI-84 models. Calculators capable of symbolic manipulation (ex. TI-86 or 89, TI-Nspire) are not allowed.

❧ Student Participation System

All faculty are required to report student attendance/participation through the Student Participation System in MyJeffco. All reporting must be completed by Sunday evening ***each week*** (contact 636-481-3182 with questions). Any student who fails to begin attendance or ceases participation for at least two consecutive weeks may be administratively withdrawn from the course(s). Additionally, any student who has sporadic participation in a course resulting in the student missing 15% or more of the coursework may be administratively withdrawn. See the College Catalog for more details.

☙ Grading

The Mathematics Faculty calculate grades based on a combination of exams, quizzes, in-class work, homework, and a comprehensive final exam. Due to the variety of student learning styles, we feel it is beneficial to incorporate a variety of assessment techniques and strategies in your classroom.

The department has established guidelines for weighting the different assessment measures. ***You are free to determine your specific grading strategy within these guidelines.***

Exams	30% – 60%
Quizzes	0% – 20%
MyMathLab Homework	10% – 20%
Classwork	0% – 10%
Comprehensive Final Exam	15% – 25%

Please see the general <u>Adjunct Faculty Handbook</u> *for additional assessment techniques.*

You are required to adhere to these guidelines. Particularly, ***in all algebra sections***, we need you to ***ensure*** that ***MyMathLab homework is included in final grades***, but that homework and classwork are not weighted too heavily. The majority of students' grades should come from quizzes and exams, including a ***comprehensive final*** in every class. The final exam needs to be given during the scheduled final exam time. The exam schedule is published well before the beginning of the term, and you should include the exam date and time in your syllabus. (The Final Exam Schedule and Academic Calendar can be found under "Essential Links" in the lower section of the right column on the Home tab in MyJeffco.)

☙ Reporting Grades

The college requires you to report grades at various times throughout the semester, for various purposes. The grade reports are:

PSSA Grades during the <u>4th, 8th, and 12th weeks of the semester</u>. The PSSA (Project Success, Student Athlete) students are those who are served by one or more of the many support services on campus. If those programs know how their students are doing, they can work with them if necessary to improve their performance.

Midterm Grades are due at the <u>middle of the semester</u>. Instructors are required to submit midterm grades for students earning a D or F, but you are encouraged to submit grades for all students. No matter how well you explain how you calculate grades, there always seem to be students who have no idea how well or poorly they are doing. Midterm grades remove all doubt, and put the students who are at risk of failing on notice.

Final Grades are due at the <u>end of the semester</u>. These are due within a few days after Final Exam week.

It is important that all of these reports are made before the deadlines, which are listed in the Academic Calendar (see right column on the Home tab in MyJeffco). Late reporting of grades causes a ripple effect of negative consequences (see <u>Adjunct Faculty Handbook</u> for details).

The college provides a very simple method for grade reporting. Grades are submitted electronically in MyJeffco on a report page accessed through the Faculty tab.   Throughout the semester, you will receive a MyJeffco email reminder of what grades are due and the reporting deadlines. If you have any difficulty with the reporting process, contact your division secretary (Erica Chandler, echandl2@jeffco.edu, 636-481-3302), the Help Desk at 636-481-3234, or the Enrollment Services at 636-481-3209.

❧ Missing Classes

If you will be missing a class meeting, ***please let the Arts & Sciences office, ASI 110, know by phone*** (636-481-3302 or 636-481-3331) or ***email*** echandl2@jeffco.edu, tjokerst@jeffco.edu, and fmoore1@jeffco.edu. Staff will post notes in classrooms and send texts to students who have signed up for Viking Text Messaging. Whenever possible, please post an announcement in Blackboard with assignments.

❧ Faculty Evaluation Process

To ensure that our students receive a quality education in all classes, all adjunct and full-time faculty are evaluated periodically. You will be evaluated either by a full time faculty member, a division chair, or the Dean of Arts and Science. The evaluator will observe one class meeting and may meet briefly with you afterward to discuss his or her observation. The evaluation is designed to provide you with guidance and feedback to help you become more effective in delivering a consistent quality education to our students.

The division secretary will contact you to schedule a time for the observation. Please make sure that this is a class during which you will be teaching, and will not be giving an exam or having students working the entire period on their own. You will be asked to provide your evaluator with the following documents prior to the observation:

- Your course syllabus
- A description of what you will be teaching on the day of your observation
- A copy of an exam that you have given during the semester
- A sample of graded student work (preferably from students with various ability levels)

The forms that will be used for your observation are included in your <u>Adjunct Faculty Handbook</u>.

❧Resources for Faculty

Course Coordinators – Each course in our algebra sequence is coordinated by two of our full time faculty members. These coordinators are responsible for overseeing the course syllabi and serving as a resource for 'their' course. If you have any course-specific needs, contact your course coordinator. Their coordinators and contact information are in the table below.

Beginning Algebra	Skyler Ross	sross@jeffco.edu	636-481-3378
	Imran Shah	ishah@jeffco.edu	636-481-3275
Intermediate Algebra	John Johny &	mjohny@jeffco.edu	636-481-3326
	Beverly Meyers	bmeyers@jeffco.edu	636-481-3324
College Algebra	Linda Hoppe &	lhoppe@jeffco.edu	636-481-3322
	Connie Kuchar	ckuchar@jeffco.edu	636-481-3338

Classroom Technology – Jefferson College is fortunate to have almost all of its classrooms furnished with SMART technology in the form of computers, projectors, document cameras, and Smartboards. Additional training is available if you would like to use this technology in your class but aren't familiar enough with it. For help, ask a full time faculty member, or contact Karen Hester by phone at 636-481-3361, or by email at khester@jeffco.edu to request training.

TI-83 Emulator – This program allows you to project and use an image of the TI-83 right on the Smartboard in order to demonstrate its use to your students. Contact Skyler Ross for a copy of this program.

TestGen – The algebra textbook publisher, Pearson Education, provides a random value test generator for most of its textbooks. There are features that allow you to create multiple-choice and open answer questions. With the click of a button, you can create multiple forms of the same test. This is also an excellent resource for creating review sheets. You can download TestGen through MyMathLab by logging into one of your MyMathLab course pages and clicking the "Instructor Resources" link at the bottom in the left margin column; TestGen will be at the bottom of the list of resources that will be listed.

Testing Centers – There is a Testing Center at each campus. The Testing Centers administer exams to students requiring accommodations established through Disability Support Services (such as extended time). You can also make arrangements for a student to take a missed exam in the Testing Center. All you need to do is fill out the Test Referral Slip (available at the Testing Centers or on the Faculty tab in MyJeffco) and drop the test off at the center ahead of time. Be sure to include your name and the student's name on the test form. The staff will administer the exam and hold or return it to you as indicated on your referral slip. Hours of operation and policies are listed on the Student tab, Helpful Resources.

Office of Student Development – If you have students who are not performing up to their potential, or who are not showing up for class, consider completing an Academic Early Alert form (right column of Faculty tab). The Office of Student Development staff will get in touch with the students and provide assistance or refer them to the appropriate campus resource.

Central Office Services (COS) and Copiers – Please send any job consisting of *more than 30 pages* to COS for copying. There is a convenient link on the Faculty Tab in MyJeffco (bottom of left column) that allows you to upload and request copies electronically. This costs the school about 1/3 as much as using the copiers, and over half of the Mathematics Department budget is spent on document generation. Delivery of copies can take up to a week, but they are usually delivered to your mailbox within three to four business days. The personnel in ASI110 at Hillsboro or the Main Desk at JCA can assist you in filling out the necessary forms for your copy order. COS can be reached at 636-481-3137 or 636-481-3138.

Additionally, the college provides copiers for *small* (less than 30 pages) and last-minute jobs. Two-sided copies are strongly encouraged. The Math Department code for the copiers is 55306. See the Adjunct Faculty Handbook for copier locations.

MOMATYC – Most of the full-time mathematics department faculty attend the MOMATYC (Missouri Mathematics Association of Two Year Colleges, www.momatyc.org) annual spring conference. This is a great way to keep current on teaching trends and to connect with other mathematics faculty in Missouri. Part time faculty are more than welcome to attend.

Jefferson College offers many excellent resources and opportunities to its full time and adjunct faculty. This overview is not intended to be a complete description of these services. For more details, refer to the Adjunct Faculty Handbook, or contact the appropriate office.

☙ Resources for Students

Mathematics Lab – Any student enrolled at Jefferson College may receive free tutoring and homework assistance with mathematics courses or with mathematics as applied in other courses on a walk-in basis in the Mathematics Lab. The lab is staffed by faculty members and professional tutors. Online mathematics tutoring is also available. To find locations and schedules, click on the Academic Success Center link under "Tutoring Services" on the Student tab (center column) in MyJeffco.

Peer Tutoring – Students can receive free one-on-one on campus peer tutoring from other students as arranged through the Learning Center. They can complete the 'tutor request form' available through the Student tab in MyJeffco, and the main College website.

❧Resources for Both Faculty and Students

MyJeffco – This is our campus 'pipeline' for information and communication. Please plan to check your Jeffco email account regularly, or forward to one you will check. If you need help with your MyJeffco account, contact the Help Desk at 636-481-3234.

Blackboard – This is a convenient way for you to post materials online for your students, and to communicate with them. In addition, you can provide online quizzes and grade access for your students. If you would like to learn to use Blackboard, training is available periodically. For more information contact Karen Hester ext. 636-481-3361.

❧Thank You

Thank you for providing the valuable service you provide to our students. If you have any questions, problems, or issues with your class, want some advice, or just need to talk to another math instructor, please feel free to contact any of us. We are more than happy to do what we can to make your experience a positive one.

Thanks again,

The Jefferson College Mathematics Faculty

Name	Email	Office	Phone
Linda Hoppe	lhoppe@jeffco.edu	TC 315D	636-481-3322
John Johny	mjohne@jeffco.edu	AS 234	636-481-3326
Connie Kuchar	ckuchar@jeffco.edu	AS 215	636-481-3338
Dianne Marquart	dmarqua3@jeffco.edu	AS 211	636-481-3366
Beverly Meyers	bmeyers@jeffco.edu	TC 315C	636-481-3324
Skyler Ross	sross@jeffco.edu	TC 315F	636-481-3378
Imran Shah	ishah@jeffco.edu	AS 236	636-481-3275
Robert Brieler, Division Chair	rbrieler@jeffco.edu	ASI 110	636-481-3337

❧Competencies and Pacing

In order for our program to function properly, it is important that students master the appropriate skills in each of our sequential courses.

The Jefferson College mathematics faculty has determined which skills fit into each course in the algebra sequence. (Beginning, Intermediate, and College Algebra)

As you plan your lessons and exams, please be consistent with the guidelines.

Key		
C	Core Skills	These skills should be mastered by the students during this course.
E	Expected Skills	Students should already be proficient in (or at least familiar with) these skills. We may need to review these skills with them, but that should be done as needed rather than at the beginning of the course, to avoid giving students the impression that they are learning same things again this semester.
R	Review	Students may be rusty, but should have learned these skills previously, and be able to re-acquire them fairly quickly. Don't spend too much time on these as it will be spent at the expense of Core topics.
I	Introduction	These skills should be introduced, but not stressed or evaluated too heavily. We just want the students to have seen these when they encounter them in subsequent courses.
O	Optional	Include these topics if you have time, at your discretion.

Beginning Algebra

Chapter 0 – A brief review of arithmetic skills – Review as needed

Chapter 1 – Real numbers and variables

1.1	Adding real numbers	R
1.2	Subtracting real numbers	R
1.3	Multiplying and dividing real numbers	R
1.4	Exponents	C
1.5	The order of operations	C
1.6	Using the distributive property to simplify algebraic expressions	C
1.7	Combining like terms	C
1.8	Using substitution to evaluate algebraic expressions and formulas	C
1.9	Grouping symbols	C

Chapter 2 – Equations and inequalities

2.1	The addition principle of equality	C
2.2	The multiplication principle of equality	C
2.3	Using the addition and multiplication principles together	C
2.4	Solving equations with fractions	C
2.5	Formulas	O
2.6	Solving Inequalities in One variable	C

Chapter 3 – Solving applied problems

3.1	Translating English phrases into algebraic expression	C
3.2	Using equations to solve word problems	C
3.3	Solving word problems: comparisons	C
3.4	Solving word problems: the value of money and percents	C
3.5	Solving word problems using geometric formulas	C
3.6	Using inequalities to solve word problems	O

Chapter 4 — Exponents and polynomials

4.1	Rules of exponents	C
4.2	Negative exponents and scientific notation	C
4.3	Fundamental polynomial operations	C
4.4	Multiplying polynomials	C
4.5	Multiplication: special cases	C
4.6	Dividing polynomials	C – Division by a monomial I – Division by a bionomical

Chapter 5 – Factoring

5.1	Removing a common factor	C
5.2	Factoring by grouping	C
5.3	Factoring trinomials of the form $x^2 + bx + c$	C
5.4	Factoring trinomials of the form $ax^2 + bx + c$	C

5.5	Special cases of factoring	C – Difference of Squares and Perfect Square. Omit Difference and Sum of Cubes
5.6	A brief review of factoring	C
5.7	Solving quadratic equations by factoring	C
Chapter 6 – Rational expressions and equations		
6.1	Simplifying rational expressions	C
6.2	Multiplying and dividing rational expressions	C
6.3	Adding and subtracting rational expressions	C – Using like denominators I – Using different denominators
Chapter 7 – Graphing and functions		
7.1	The rectangular coordinate system	C
7.2	Graphing linear equations	C
7.3	The slope of a line	C
7.6	Functions	O
Chapter 8 – Systems of equations – Skip		
Chapter 9 – Radicals		
9.1	Square Roots	C
9.2	Simplifying radical expressions	C
9.3	Adding and subtracting radical expressions	C
9.4	Multiplying radical expressions	O
9.5	Dividing radical expressions	O
9.6	The Pythagorean and radical equations	O
9.7	Word problems involving radicals: direct and inverse variation	O

Pacing Guidelines

The following is the suggested pace for Beginning Algebra. While instructors are not required to stay strictly within this timeframe, you are encouraged to keep approximately the same pace.

Chapter 1 – weeks 1-3

Chapter 2 – weeks 4-5

Chapter 3 – weeks 6-7

Chapter 4 – weeks 8-9

Chapter 5 – weeks 10-11

Chapter 6 – weeks 12-13

Chapter 7 – weeks 14-15

Chapter 9 – weeks 15-16

Suggested Number of Tests: 3 - 5

Intermediate Algebra

Chapter 1 – Basic concepts

1.1	The real number system	E
1.2	Operations with real numbers	E
1.3	Powers, square roots, and the order of operations	E
1.4	Integer exponents and scientific notation	E
1.5	Operations with variables and grouping symbols	E
1.6	Evaluating variable expressions and formulas	E

Chapter 2 – Linear equations and inequalities

2.1	First degree equations with one unknown	R C - Identity and Contradiction
2.2	Literal equations and formulas	C
2.3	Absolute value equations	C
2.4	Using equations to solve word problems	R
2.5	Solving more involved word problems	C
2.6	Linear inequalities	R
2.7	Compound inequalities	C
2.8	Absolute value inequalities	C/I

Chapter 3 – Equations and inequalities in two variables and functions

3.1	Graphing linear equations with two unknowns	R – "Slanted" lines C – Vert and Horiz lines
3.2	Slope of a line	R – Finding slope C – Parallel, perpendicular, and vertical lines
3.3	Graphs and the equations of a line	C
3.4	Linear inequalities in two variables	C
3.5	Concept of a function	C
10.1	Functional notation	C
3.6	Graphing functions from equations and tables of data	C

Chapter 4 – Systems of linear equations and inequalities

4.1	Systems of linear equations in two variables	C
4.2	Systems of linear equations in three variables	O
4.3	Applications of systems of linear equations	C – 2 by 2, but NOT 3 by 3

Chapter 5 — Polynomials

5.1	Introduction to polynomials and polynomial functions – adding subtracting and multiplying	R
5.2	Dividing polynomials	R – Division by a monomial C – Long division
5.3	Synthetic division	C
5.4	Removing common factors; factoring by grouping	R
5.5	Factoring trinomials	R
5.6	Special cases of factoring	R – Diff of sqrs and pfct sqrs C – Sum and diff of cubes
5.7	Factoring a polynomial completely	R

5.8	Solving equations and applications using polynomials	R – Solving quad eqns C – More involved problems
Chapter 6 – Rational expressions and equations		
6.1	Rational expressions and functions; simplifying multiplying and dividing	R
6.2	Adding and subtracting rational expressions	R – same denominators C – different denominators
6.3	Complex rational expressions	C
6.4	Rational equations	C
6.5	Applications: Formulas and advanced ratio exercises	C – Ratio and proportion
Chapter 7 – Rational exponents and radicals		
7.1	Rational exponents	C
7.2	Radical expressions and functions	C
7.3	Simplifying, adding, and subtracting radicals	R/C
7.4	Multiplying and dividing radicals	C
7.5	Radical equations (single root equations)	I
7.6	Complex numbers	C
7.7	Variation	O
Chapter 8 – Quadratic equations and inequalities		
8.1	Quadratic equations	C
8.2	The quadratic formula and solutions to quadratic equations	C
8.3	Equations that can be transformed into quadratic form	I
8.4	Formulas and applications	O
8.5	Quadratic functions	C
8.6	Quadratic inequalities in one variable	O
Chapter 9 – Conic sections		
9.1	The distance formula and the circle	O

Pacing Guidelines

The following is the suggested pace for Intermediate Algebra. While instructors are not required to stay within this timeframe, you are encouraged to keep approximately the same pace.

Chapter 2 – weeks 1-3

Chapter 3 – weeks 3-5

Chapter 4 – week 6-7

Chapter 5 – weeks 7-9

Chapter 6 – weeks 10-11

Chapter 7 – weeks 12-14

Chapter 8 – weeks 14-16

Suggested Number of Tests: 3 - 4

College Algebra*

Chapter R – Basic Concepts of Algebra – Review as needed	
R.1	Real Numbers (interval notation)	C

Chapter 1 – Graphs, Functions, and Models	
1.1	In Introduction to Graphing	R/C
1.2	Functions & Graphs	R/C
1.3	Linear Functions, Slope, & Applications	R/C
1.4	Equations of Lines & Modeling (Regressions)	R/C
1.5	Linear Equations, Functions, Zeros & Applications	R/C
1.6	Solving Linear Inequalities	R

Chapter 2 – More on Functions	
2.1	Increasing, Decreasing, & Piecewise Functions; Applications	C
2.2	The Algebra of Functions	C
2.3	The Composition of Functions	C
2.4	Symmetry	C
2.5	Transformations	C
2.6	Variation & Applications	O

Chapter 3 – Quadratic Functions and Equations; Inequalities	
3.1	The Complex Numbers	C
3.2	Quadratic Equations, Functions, Zeros & Models	C
3.3	Analyzing Graphs of Quadratic Functions	C
3.4	Solving Rational Equations & Radical Equations	C
3.5	Solving Equations and Inequalities with Absolute Value	C

Chapter 4 – Polynomial and Rational Functions	
4.1	Polynomial Functions & Modeling	C
4.2	Graphing Polynomial Functions	C
4.3	Polynomial Division; The Remainder & Factor Theorems	C
4.4	Theorems about Zeros of Polynomial Functions	C
4.5	Rational Functions	O
4.6	Polynomial & Rational Inequalities	C – Polynomial Inequalities O – Rational Inequalities

Chapter 5 – Exponential and Logarithmic Functions	
5.1	Inverse Functions	C
5.2	Exponential Functions & Graphs	C
5.3	Logarithmic Functions & Graphs	C
5.4	Properties of Logarithmic Functions	C
5.5	Solving Exponential & Logarithmic Equations	C
5.6	Applications & Models: Growth & Decay; Compound Interest	C

Chapter 6 – Systems of Equations and Matrices		
6.1	Systems of Linear Equations in 2 Variables	C
6.2	Systems of Linear Equations in 3 Variables	C
6.3	Matrices & Systems of Equations	C

Note: *Use of the graphing calculators is expected throughout the course. See the following section for specific core calculator competencies for the college algebra course.*

Pacing Guideline

The following is the suggested pace for College Algebra. While instructors are not required to stay within this timeframe, you are encouraged to keep approximately the same pace.

Chapter 1 – weeks 1-3

Chapter 2 – weeks 3-5

Chapter 3 – weeks 6-8

Chapter 4 – weeks 9-11

Chapter 5 – weeks 12-14

Chapter 6 – weeks 15-16

Suggested Number of Tests: 3 - 4

College Algebra – Expectations for Using the Graphing Calculator

While much can be done without the calculator, we want to students to make connections between algebraic and graphical solutions. We also want to incorporate the use of real world data as much as possible to illustrate the value of algebra. To that end, we have developed the following departmental guidelines for incorporating graphing calculators in College Algebra and included appropriate problems in the MML homework assignments. For additional practice, you may also want to use the related textbook problems in the sections listed in parentheses.

1) **Given an equation or algebraic expression of a function, students should be able to …**
    a. **graph the function**
       (1.1, 1.2, and 5.2)
    b. **determine the value of the intercepts (both *x* and *y*)**
       (1.1, 3.2, and 4.1)
    c. **determine the relative maxima and minima (*y*-values) AND intervals of increase/decrease**
       (2.1 and 4.1)

2) **Given algebraic equations, use graphing techniques (intersection and/or zeros method) to solve.**
       (1.5, 3.4, 4.6, 5.2, and 6.1)

3) **Finding a regression model; given a list of real data students should be able to...**
    a. **create a scatterplot of the data**
    b. **from the graph, determine the appropriate regression model (linear, quadratic, polynomial, or exponential)**
    c. **find the regression equation**
    d. **analyze the regression equation (identify correlation coefficient, use the model to find input or output)**
       (1.4. 4.1, and 5.6)

4) **Solve applied problems involving zeros or max/min of non-factorable polynomials**
    a. **Graph the function using an appropriate window**
    b. **Find approximate zeros using 2nd Calc, Zero (not Trace or guessing)**
       (3.2, 3.3, and 4.1)

5) **Solve systems of 3 variables/3 equations using matrices**
    a. **Enter the values as an augmented matrix**
    b. **Perform the "rref" command**
    c. **State the solution of the system as an ordered triple or answer the given question in an applied problem**
       (6.2 & 6.3)

Link to online manual… http://www.prenhall.com/divisions/esm/app/calc_v2/frameset_83.html
Additional resources are posted on the Math Department Blackboard page.