

Math 115 Section 1474 MTWTh 11:10-12:25 (location SC106) and section 470 MW 4:30-7:05 Fall 13 (location MSA109) (E-mail: feinerh@wlac.edu Math 115 in subject area.)

Professor: H. Feiner, office MSB219 MW 10:00 – 11:00 A.M. and 2:30 – 4:00 P.M. (Phone 310-287-4543)

Text: Beginning Algebra (Aufmann, Barker, Lockwood (8th edition, Houghton Mifflin) ISBN: 0-618-80359-9 (you can use the seventh edition)

Requirements:

Welcome to Etudes -- a teaching, learning, and collaboration environment

Please review system requirements below:

1. [Computer \(PC and Mac\) and Connectivity Requirements](#)
2. Be sure you are using a supported browser. They are free downloads.
 - o PC Users: [Internet Explorer 7 SP2](#) or [Firefox 3](#). IE 8 is not yet supported. For more information, see: [PC Supported Browsers](#).
 - o Mac users: Download [Firefox 3](#). Mac users must be running OSX 10.3 or above. For more information, see: [Mac Supported Browsers](#).
3. Configure your browser's cache. 99% of problems are due to incorrect "cache" browser settings.
 - o [PC Browser CACHE Settings](#)
 - o [Macintosh Browser CACHE Settings](#)
4. Configure [cookies, JavaScript, pop-up blocker](#).
5. Accept Etudes-NG [SSL certificate and settings for alerts](#).

Other ISP & browser considerations:

6. [IMPORTANT note for AOL Users!](#) Do NOT use AOL's browser.
7. **Satellite ISP's are NOT recommended!** Users who are using **Direcway** or **Hughes Satellite ISP's** might encounter technology problems and intermittent issues with Etudes-NG that are beyond our control.
8. **Use of Multiple Browser Windows is a no-no!** Do NOT open more than one Etudes-NG browser window while being logged into the system. It is easy to log yourself out of one and get logged out of the others, losing what you were working on - assignments, tests, etc. You will be prompted to log back in!

Course Description:

Math 115, Beginning Algebra, is delivered partially by Etudes on line and as a regular lecture class. Students choose the course as a face-to-face course. Students must be registered with WLAC in Culver City, CA, and follow all

rules, regulations, and deadlines. This includes the admonition that you must **withdraw officially before the deadline** in case you abandon the class. Failure to withdraw will result in failure of the course. All students have an Etudes account to be used.

A first course in algebra covering basic operations with real numbers, polynomials, and rational and radical expressions; linear, quadratic, rational and radical equations; linear inequalities; systems of two linear equations; graphing and linear functions. Emphasis is placed on solving a variety of elementary application problems using mathematical modeling and symbol manipulation skills.

Students stay in touch with the professor and each other through discussion and/or private messages on this website. Students study the lectures prepared on Etudes.

Warning:

If your math 115 course is too fast, you can switch to Math 117/Math 118 within the first four weeks and extend the course over two semesters.. Make your best effort in this course. Do homework regularly. You need to reach the point where you can do homework without help from any source. Form study groups.

Expected Outcomes:

Ability to handle variable expressions.

- Competence in solving linear/quadratic equations and inequalities.
- Aptitude for solving application problems.
- Capability to solve systems of linear equations.
- Facility with handling polynomials.
- Skill in factoring polynomials and reducing rational expressions.
- Competence in computing with rational expressions and the quadratic formula.

Course Format:

The course is delivered in small sections through modules and through textbook sections.

Familiarize yourself with the material in the section presently covered in the textbook. Examine the supplementary notes in the Etudes module under discussion and watch appropriate videos on Youtube under FeinerMathVideos before these sections are covered in class. Read the textbook section before coming to class, work out the examples with pencil and paper. Rework the examples if necessary till you can reproduce them without help from any source. Now you are ready for the homework from the textbook. Do every other odd numbered problem, as many as needed.

- You can go through suggested problems in the official textbook. The solutions are also in Etudes. Special lessons are in each section in PDF format.

Take the tests when scheduled. Make-ups are given within a week of the scheduled test for extenuating circumstances. Show enough work on paper so that your reasoning can be followed without additional oral explanations and associate each piece of scratch work with a problem number. Box in answers on paper.

Visit the restroom before the test. If you need to go, visit the nearest restroom and return promptly. Visiting the restroom during testing puts you under suspicion of cheating.

Turn off all music and other electronic devices during testing. Clear your desk of all objects, especially phones. If the student next to you is taking the test, move as far away as possible,

The date for taking the final is fixed by the college.

Communication with professor/students:

All communications online happens within the course site. Post your question(s) in the appropriate forum under Discussion & Private Messaging. There is no quota for messaging. Up to **5% extra credit** will be added to the students with the most pertinent messages (questions and answers). Extra credit for other student messages will be pro-rated.

Hints:

When answering test questions, budget your time. Ten problems solved in 50 minutes allows five minutes per question. Don't spend more time on the first go-around. Answer questions in order and show reasoning on scratch paper. Identify each piece of scratch work with a problem number.

A grade is adjusted in case of clerical error (check additions, etc.)

Scoring and Evaluation:

Homework/quizzes (60 sections): (no points).

5 Tests: (11 chapters) 100 points per test.

Final: 300 points.

Extra credit: None

A: 90.1% - 100%

B: 80.1% - 90%

C: 70.1% - 80%

D: 60.1% - 70%

F: Below 60%

The grade of Incomplete will be issued only if the student is prevented from taking the final due to a **verifiable emergency before the final**. A student who is not passing the class or has personal issues affecting performance needs to withdraw before the withdrawal deadline.

Attendance:

You can be dropped from class if you **miss three class sessions**, but the ultimate responsibility for officially withdrawing is yours.

The last day to drop for this class with no fee owed is Tuesday, February 21, 2012. The last day to drop without a "W" is Friday, March 2, 2012. The last day to drop with a "W" is Friday, May 4, 2012

Tentative schedule:

Week 1A: (1.1) Introduction to integers, (1.2) Operation with integers, (1.3) Rational Numbers, (1.4) Exponents and order of operations, (1.5) Concepts from geometry.

Week 1B: (2.1) Evaluating rational expressions.

Week 2A: (2.2) Simplifying variable expressions., (2.3) Translating verbal expressions into variable expressions.

Week 2B: **Test 1**. (3.1) Introduction to equations,

Week 3A: (3.2) General equations. (3.3) Inequalities.

Week 3B: (3.1) Simplify algebraic expressions.

Week 4A: (3.2) General equations. (3.3) Inequalities.

Week 5A: (4.1) Translating sentences into equations. (4.2) Integer, coin, and stamp problems.

Week 5B: (4.3) Geometry problems. (4.4) Markup and discount problems. (4.5) Investment problems.

Week 6A: (4.6) Mixture problems. (4.7) Uniform Motion problems. (4.8) Inequalities.

Week 6B: **Test 2**. (5.1) The rectangular coordinate system. (5.2) Graphs of straight lines.

Week 7A: (5.3) Slopes of straight lines. (5.4) Equations of straight lines.

Week 7B: (5.5) Functions. (5.6) Linear inequalities.

Week 8A: (6.1) Solving systems of linear equations by graphing, (6.2) Solving systems of linear equations by the substitution method. (6.3) Solving systems of linear equations by the addition method.

Week 8B: (6.4) Application problems in two variables. (7.1) Addition and subtraction of polynomials.

Week 9A: **Test 3**. (7.2) Multiplication of monomials. (7.3) Multiplication of polynomials.

Week 9B: (7.4) Division of polynomials, (7.5) Integer exponents and scientific notation.

Week 10A: (8.1) Common factors. (8.3, not 8.2) Factoring polynomials of the form ax^2+bx+c .

Week 10B: (8.2) Factoring polynomials of the form x^2+bx+c . (8.4) Special factoring. (8.5) Solving equations.

Week 11A: **Test 3**. (9.1) Multiplication and division of rational expressions.

Week 11B: (9.2) Expressing fractions in terms of the least common multiple of their denominators (9.3) Addition and subtraction of rational expressions. (9.4) Complex fractions.

Week 12A: (9.5) Equations containing fractions. (9.6) Literal equations.

Week 12B: (9.7) Application problems. (10.1) Introduction to radical expressions.

Week 13A: (10.2) Addition and subtraction of radical expressions.

Week 13B: (10.3) Multiplication and division of radical expressions. (10.4) Solving equations containing radical expressions.

Week 14A: **Test 4.** (11.1) Solving quadratic equations by factoring or by taking square roots.

Week 14B: (11.2) Solving quadratic equations by completing the square. (11.3) Solving quadratic equations by using the quadratic formula.

Week 15A: (11.4) Complex numbers. (11.5) Graphing quadratic equations in two variables. (11.6) Application problems.

Week 15B: **Test 5**

Week 16A: **Final ?**

Week 16B: **Final ?**

Conduct:

You are adults and will be treated accordingly. Likewise, you will behave accordingly. I will not tolerate any student or classroom situation that distracts from a positive learning environment. That includes eating/drinking in class (except for water) and talking. You could be suspended for one or two days by the professor. You could also be sent to the Dean of Student Services for these and other violations for disciplinary action, including longer suspension and expulsion.

Board Rule 9803.17 Interference with Peace of College

The malicious or willful disturbance of the peace or quiet of any of the Los Angeles Community Colleges by loud or unusual noise or any threat, challenge to fight, or violation of any rules of conduct as set forth in this Article. Any person whose conduct violates this section shall be considered to have interfered with the peaceful conduct of the activities of the college where such acts are committed.

Dishonesty Policy:

Cheat once, get an F on the test. The incident will be reported to the vice president of student services. Cheat again, fail the course and get reported to vice president of student services.

Recording devices:

State law in California prohibits the use of any electronic listening or recording device in a classroom without prior consent of the instructor and college administration. Any student who needs to use electronic aids must secure the consent of the instructor. If the instructor agrees to the request, a notice of consent must be forwarded to the Vice President of Academic Affairs for approval. Put cell phones on vibrate.

Disciplinary action:

Violation of Board Rules shall result in student discipline imposed in accordance with the Student Discipline Procedures as stated in Board Rule 91101. Discipline includes warning, reprimand, disciplinary probation, suspension or termination of financial aid, suspension, withdrawal of consent to remain on campus, expulsion subject to reconsideration, and permanent expulsion.

Student grievance procedure:

The purpose of the student grievance procedure is to provide a prompt and equitable means of resolving student grievances. The procedure enumerated in Administrative Regulation E-55 shall be available to any student or applicant for admission who believes a college decision or action has adversely affected his or her status, rights, and/or privileges as a student. Education Code Section 76224(a) governs grievances relating to course grades.

Disabled students programs & services:

West Los Angeles College recognizes and welcomes its responsibility to provide an equal educational opportunity to all disabled individuals. The Office of Disabled Students Programs and Services (DSP&S) has been established to provide support services for all verified disabled students pursuing a college education. All services and equipment are provided free of charge to any qualifying disabled student. The DSP&S Office is located in the Heldman Learning Resources Center (HLRC), room 119. The Office is open Monday through Thursday, 9:00 a.m. to 5:30 p.m., and Friday, 9:00 a.m. to 12:00 p.m. Early morning and evening appointments can be made by special arrangement. The telephone number is (310) 287-4450. The following services are offered: Note taking assistance. • Classroom accommodations for students with disabilities.

- Registration assistance.
- Special parking permits.
- Academic and career guidance counseling.
- Adaptive equipment and technology aids.
- Specially adapted computers.
- Test proctoring and related accommodations.
- Instructor liaison.
- Learning strategies and study skills classes

The DSP&S Office also maintains a liaison with the California Department of Rehabilitation and other public agencies such as the Regional Center and Westside Center for Independent Living.

These guidelines may be changed to improve or further class atmosphere.

Tentative schedule:

M 8-26 Review 1.1-1.5	T 8-27 Review 1.1-1.5	W 8-28 2.1-2.2	Th 8-29 2.3	M 9-02 Labor Day	T 9-03 -3. 1	W 9-04 Test 1	Th 9-05 3.2 -
M 9-09 3.3	T 9-10 4.1	W 9-11 4.2	Th 9-12 4.3	M 9-16 4.4	T 9-17 4.5	W 9-18, 4.6	Th 9-19,4.7
M 9-23 4.8	T 9-24 5.	W 9-25 1Test 2	Th 9-26 5.2	M 9-29 5.3-5.4	T 9-30 5.5	W 10-01 5.6	Th 10-02 6.2 (omit 6.1)
M 10-6 6.3	T 10-7 6.4	W 10-08 Test 3	Th 10-09 5.4	M 10-14 7.1	T 10-15 7.2-7.3	W 10-16 7.4	Th 10-17,8 7.5
M 10-21 8.1	T 10-22 8.3 (before 8.2)	W 10-23 8.2	Th 10-24 Review	M 10-28 7.8.4	T 10-29 8.5	W 10-30 9.1	Th 10-31 9.2
M 11-04 9.3	T 11-05 Review	W 11-06 9.4	Th 11-07 9.5	M 11-11 Holiday	T 11-12 9.6	W 11-13 Test 4	Th 11-14 9.7
M 11-18 10.1	T 11-19 10.2	W 11-20 10.3	Th 11-21 10.4	M 11-22 11.1	T 11-26 11.2	W 11-27 11.3	Th 11-28 11.4
M 12-04 11.5	T 12-05 11.6	W 12-06 Test 5	Th 12-07 Review	FINAL ???			

Form study groups. Homework: state the problem, show steps, including scratch work, check answers.

Options if a scheduled class does not meet.

A scheduled class is canceled (campus closed for some reason - electrical failure or other emergency, ..., professor breaks a leg, ...) **You are still responsible for the material, as if the class had been conducted. Communicate with your professor through e-mail within the Etudes website.**

Make sure the college has your latest e-mail address, phone number, other personal information.

If the professor is late (traffic, car accident, personal emergency, ...) stay in class and work on the planned section(s) in the textbook as much as possible. Help each other.

Course Objectives

1.
 - a. Identify the opposite and the absolute value of any rational number
 - b. Compare rational numbers using inequality notation
 - c. Perform arithmetic operations with rational numbers
 - d. Convert among percents, fractions, and decimals
 - e. Evaluate numerical expressions using order of operations
 - f. Identify sets and subsets of the real numbers.
 - g. Identify and use the properties of the real numbers
2.
 - a. Evaluate variable expressions
 - b. Identify like and unlike terms
 - c. Simplify variable expressions using properties of addition and multiplication and the distributive property
 - d. Translate a verbal expression into a variable expression, including applications
 - e. Use formulas to solve problems
 - f. Solve a literal equation for one of its variables
3.
 - a. Determine whether a given number is a solution to an equation
 - b. Solve general linear equations
 - c. Solve equations involving rates, ratios, and percents

- d. Model and solve application problems using linear equations, including but not limited to:
 - i. Uniform motion problems
 - ii. Business applications
 - iii. Value and Percent mixture problems
 - iv. Geometry problems
 - v. Non-routine applications
4.
 - a. Construct a Cartesian coordinate system; identify and graph points
 - b. Construct and interpret scatter diagrams
 - c. Determine solutions of linear equations in two variables
 - d. Graph linear equations in two variables given in standard or in function form
 - e. Find the slope of a straight line, given two points on the line or an equation of the line
 - f. Find an average rate of change and interpret slope as a rate of change
 - g. Graph a line given two points or one point and the slope
 - h. Find an equation for a line given two points or one point and the slope
 - i. Identify whether or not a relation is a function
 - j. Model applications using linear functions
 - k. Solve problems using linear functions
5.
 - a. Solve general linear inequalities in one variable
 - b. Graph solutions to linear inequalities on a number line
 - c. Graph linear inequalities in two variables.
 - d. Model and solve application problems using linear inequalities in two variables
6.
 - a. Solve systems of linear equations by graphing
 - b. Solve systems of linear equations using algebraic methods
 - c. Model and solve application problems using systems of two equations in two variables (including but not limited to rate-of-wind and water-current problems)
7.
 - a. Add and subtract polynomials
 - b. Multiply monomials and simplify powers of monomials
 - c. Multiply polynomials, including special products
 - d. Factor polynomials completely using common factors, grouping, and other techniques
 - e. Divide polynomials
 - f. Use scientific notation with positive and negative powers of ten
 - g. Solve polynomial equations by factoring.
 - h. Model and solve applications using polynomial equations and functions
8.
 - a. Multiply, divide, and simplify rational expressions
 - b. Find the LCM of two or more polynomials
 - c. Add and subtract rational expressions
 - d. Simplify complex rational expressions
 - e. Solve equations containing fractions

- f. Set up and solve proportions in applied contexts including similar polygons
 - g. Use rational equations and functions to model and solve applications such as uniform motion and work problems
- 9.
- a. Simplify numerical and variable radical expressions
 - b. Add, subtract, multiply and divide radical expressions
 - c. Solve equations containing one or more radical expressions
 - d. Model and solve problems using radical equations and functions
- 10.
- a. Solve quadratic equations by factoring, taking square roots, completing the square, and using the quadratic formula
 - b. Graph a quadratic function
 - c. Use quadratic equations and functions to model and solve application problems

Math Program SLOs

1. Apply quantitative thinking processes using basic mathematical operations (addition, subtraction, multiplication, division) to solve common academic, workplace, and family problems. (Theme: Quantitative thinking; mathematical operations)
2. Analyze and interpret spatial and graphic data (schedules, maps, tables, graphs, and geometric figures). (Theme: spatial and graphic data).
3. Use mathematical tools essential for analyzing quantitative problems and for producing solutions. (Theme: mathematical tools)
4. Apply advanced mathematical concepts and tools (algebra, calculus) essential in upper division academic work and/or workplace tasks. (Theme: advanced mathematical operations—algebra, calculus)
5. Select appropriate math strategies for solving and handling application problems involving (for example) finance, science, economics, and family issues. (Theme: mathematical problem-solving)

<u>Course SLO</u>	<u>Assessment Method</u>	<u>Criterion Level</u>
<p>One sentence that describes a major piece of knowledge, skill, or ability that students can demonstrate by the end of the course</p> <p><i>Finish the sentence, “At end of the course, the successful student will be able to... “</i></p>	<p>Major assignment, project or test used to demonstrate or apply outcome</p> <p><i>Remember to have a mix of qualitative and quantitative assessment methods.</i></p>	<p>Reflects satisfactory performance on the SLO</p> <ul style="list-style-type: none"> • <i>At least X percent of students achieve this course SLO.</i> • <i>All students achieve at least the Y level on this SLO.</i> • <i>At least X percent of students achieve the Y level on this course SLO.</i>
<p>1. Construct, analyze, and interpret graphs of linear equations in two variables in theoretical and applied contexts</p>	<p>Students will answer multiple-choice questions embedded on a common final exam. A scantron scanner will be used to access the results for each of the relevant questions.</p>	<p>Each question will be answered correctly by at least 40 % of students.</p>
<p>2. analyze an application, determine the data and formula(s) required for solving the given application, write an equation(s), solve the equation(s), and write a statement of conclusion that summarizes the results using units of measure.</p>	<p>Students will answer multiple-choice questions embedded on a common final exam. A scantron scanner will be used to access the results for each of the relevant questions.</p>	<p>Each question on the final exam will be answered correctly by at least 30 % of students.</p>
<p>3. Solve linear and quadratic equations in one variable, and solve equations containing algebraic fractions or square roots in one variable</p>	<p>Students will answer a set of constructed-response questions that may be embedded in an in-class exam or administered separately as an in- class activity</p>	<p>At least 25% of students will achieve a level of at least 80% on the set of constructed-response questions. At least 50% of the students will achieve a level of at least 60% on the set of constructed- response questions .</p>
	<p>Students will answer questions embedded on a common final exam. A scantron scanner will be used to access the results for each of the relevant questions.</p>	<p>Each question will be answered correctly by at least 40 % of students.</p>