

Instructor: Bonnie Kelly
Office: Henry Hall, \#24
Course: MA 102-01, MWF 9-9:50, H225
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Phone: 735-4872 (Office - leave message)
Hours: MWF 10:00-10:50 am.
Resource: Algebra for College Students, Gustafson/Frick
Mail box: Rm. H118 or Rm. H24, Kelly

## Notes:

The semester begins Monday, Jan. 14 with the last day of class Friday, May 3, 2002.
There are no classes on: Jan. 21, Feb. 18, Mar. 25-29 (Spring Recess).
All Jan. 18, 11:00 classes are cancelled due to Convocation.
Midterm is usually given in the $8^{1 / 2}$ week.
Final exams run from May 6-9, Mon. - Thurs.
Final for this course is: Monday, May $\mathbf{6}^{\text {th }}, 10: 30-12: 30 \mathrm{pm}$
Necessary supplies are: scientific calculator, looseleaf paper, graph paper, pencils, pen, ruler, folder, and eraser. The class as a whole decides which day is book day.

Hand in all late assignments to me in person or in my mailbox in Rm. H118, or in H24, NOT on my desk.
Capped (screw top) containers of beverage are acceptable. Open drinks and food are not.
This is a grade sheet. At various times during the semester you will receive a copy of it to verify scores of individual items, so keep these items in a folder. Date, label, and name are necessary on each item.

## Summary of Course Topics

Formulas: distance, Pythagorean theorem, volume, function definitions, binomial theorem
Equations: solving for variable(s), solving inequalities, variation and proportion, linear systems
Functions: linear, polynomial, rational, exponential, logarithmic, inverse, piece-wise
Graphing: linear, polynomial, rational, exponential, logarithmic, inverses, slopes, piece-wise
Applications: supply and demand, cost, revenue, profit, distance, interest, rates of change
Other: computer use, the Internet, resources

## Tentative Focus Sheet Schedule

Integer Exponents: Basic exponential laws, scientific notation
Radicals and Rational Exponents: Basic radicals, fractional exponents
Polynomials \& Special Products: Basic polynomial operations
Pascal's Triangle: Binomial coefficients, expansion
Factoring Polynomials: Basic factoring techniques
Fractional Expressions: Basic operations of fractional expressions
Ratio, Proportion, Variation: Basic proportion manipulation
Linear Equations: Basic definitions, absolute value
Solving Linear Equations: Solving for 1 variable
Applications of Linear Equations: Basic linear word problems
Quadratic Equations: Completing the square, linear factors, special quadratic form
Systems of Equations: Basic elimination or substitution processes
Quadratic Formula and Applications: Quadratic Formula, Pythagorean Theorem
Polynomial Equations: Basic solving techniques, absolute values
Linear Inequalities: Basic techniques, absolute values
Cartesian Plane: Coordinate systems, distance, midpoint
Graphs of Equations: Plotting, intercepts
Lines in the Plane: Forms, slopes
Functions: Domain, range, difference quotient
Graphs of Functions: Generic graphs (13), graphing techniques
Combination of Functions: Operations, composition
Inverse Functions: Methods, graphing
Quadratic Functions: Graphing techniques, QFT
Polynomials Functions: Graphing techniques, roots
Rational Functionsi Generic models, behavios
Exponential Functions: Generic models, behavior
Logarithmic Functions and Properties: Generic models, behavior
Applications of Exponential and Logarithmic Functions: Applications

Worksheets and help sheets are used as well for some topics.
Problem sets for exam reviews are generated as needed.

## Policies

## Expectations

i) a working knowledge of beginning algebra or of some of the concepts to be covered
ii) a polite, tolerant and "can-do" attitude at all times (even when frustrated)
iii) looseleaf paper, graph paper, pencils w/ eraser, graph paper, floppy disk, manila envelope (end of semester)
iv) a calculator that can do exponentials, logs, statistical data (graphing capability is great but you will have to know how to use it on your own)
v) attendance at all times - if you are absent then there is at least one quiz missing
vi) all assigned work to be done by due date - points off for lateness
vii) self-determination $=$ responsibility $=$ independence $=$ ability to achieve growth

## Absence and Late Policy

Do not miss any days. If you miss a class, it is your responsibility to get notes and make-up work from a classmate. Phone my office about any absence. For any missed class, valid documentation for the absence itself to be excused is required. An excused absence allows for make-up work, including quizzes, within a certain amount of class days. See me at all times if you start to have trouble keeping up with the work, need more instruction, or need more time due to personal problems. If you are having problems with the pace of the course or need extra provisions for completing assignments etc., please see me before the problem becomes unmanageable. Please provide documentation of legitimate difficulties such as a handicap so that allowances can be made for you. If you do not understand any concept, stay after class, come to office hours, or go to the Academic Advancement Center. All missing work or quizzes are zeros (unless made up according to policy). Be on time for class. If you are late and lecture has begun, enter quietly and take the nearest seat available. Class is dismissed on time or when instructor so indicates.

## Plagiarism

Student honor code is according to your handbook. Plagiarism, copying, and cheating may result in forfeiture of grade. Reference your research appropriately and the use of others' work at all times. This includes textbook problems, resource materials such as library books and encyclopedias, and Internet sites.

## Writing

Although this is a mathematics course, writing is an integral factor. The University catalog indicates that "writing across the curriculum" is required of all courses, and that the usual rules of grammar, spelling, punctuation, etc., apply. Thus, the grade for any writing assignment is primarily determined by both the math and the writing quality.

## Caveats

Do not leave anything to the last minute. Phone instructor at all times when you experience difficulty completing a task. Your grade is an accumulated total at all times. Because the points are distributed among many different items, you need to keep up with each item. There is no "curve", but there are plenty of opportunities to accumulate extra points (within the grade component), so take advantage of these at all times.

## Grading

A. Quizzes ( 15 points): The quiz grade is mainly from in-class quizzes. A form of pop-quiz is given directly after a concept has been taught. Some quizzes are take-homes. There should be enough opportunities to obtain 30-40 quizzes. To make up for a poor score in a quiz, 5 "redos" must be done for each wrong problem within one week of return. This is not just writing out 5 times the correct answer. It is solving 5 different examples of the same kind of problem you missed, from book with page reference is fine. Please include original quiz with the redos and hand in, stapled, within one week of return of quiz. A missing quiz (even with excused absence) is a zero.
B. Summaries ( $\mathbf{3 0}$ points): These are to be typed, labeled, and dated at all times. These are a synopsis of what we did in class that week: minimum 15 sentences (which does not include the math) describing topics discussed, any assignments, at least one math example from each class, and, one original math example of the same type shown. More effort garners more points. The minimum effort does not guarantee 10/10. You may state and solve one from in class or from the book (reference page and number) but then you must create and solve your own. The math is to be typed as well using MS Equation, Mathcad, or any application that gives professional results. Please do not use carets, etc., for exponents because MS Equation can dp this, Points are taken off for this. If graphing is covered, do an example of this as well (this may be done in pencil with graph paper if necessary). If no new math is covered, or the week is short, a summary with math examples is still expected. You should include examples of any other learning that took place as well. Weekly summaries are due the first day of the next week, and, at the beginning of class, not at the end of the day. No summary $=\mathbf{0}$. Late summaries are accepted up to one week but with several points automatically deducted.

AAR: There is one overall summary, the AAR of the course due the last week of classes. This is equivalent to more than one summary in points. The AAR refers to "After Action Review" which incorporates your responses to: 1) What was supposed to happen? 2) What did happen? 3) What went right? 4) What went wrong? 5) What could be improved? These responses concern the course and how it was run, not your expectations. Math is not required in this critique.
C. Project ( $\mathbf{1 5}$ points): Possible options for projects range from tutoring math in Service Learning to creating online math tutorials including real applications. Each project must be discussed with and approved by instructor. Projects may be done individually or in a group. All projects are graded proportionately to the number of individuals involved. More information will be given separately. Poster work is not acceptable, unless part of a whole project.
D. Midterm Exam ( $\mathbf{2 0}$ points): Usually traditional, this exam may be taken differently but will be suitably complex. The same policy for Quiz redos is in effect for Midterm but not for Final.
E. Final Exam (20 points): This is traditional, multiple-choice, accumulative - in the sense of understanding how to do a problem based on previous knowledge, and usually more than twice as long (problems and time) as the Midterm.

