FD99

MA 10306 College Algebra

Thomas Spring, SM
Chaminade University
Honolulu, Hawaii

Fall 1999, Day Session

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Course Expectations

Bring the textbook to class: "Algebra for College Students"; By: Gustafson and Frisk Brooks/Cole 1995, 4th edition

Attendance: Most of the learning in this course will be done in small groups. A daily grade is given for your participation in your group and that grade will be directly affected by your attendance. Be on time every class day.

Assignments: Assignments are given out the last class day (usually a Thursday) of each week. They are due the last class day (usually a Thursday) of the next week. Holidays will occasionally change one of those days to a Tuesday.

Tests: Three tests will be given during the semester. Their dates are given on the **Course Calendar**. They will be done in small group.

Quizzes: There will be three quizzes during the semester lasting 20 minutes each. Their dates and what they cover are listed on the **Course Calendar**. They will be done in small group.

Writing: There will be three writing assignments. See the pages in this syllabus relating to the Writing Assignments. These are an individual effort. Their due dates are given on the **Course Calendar**.

Tardiness: Being late for class or with assignments, tests, quizzes, etc. is not an option. The grade for the activity is subject to a ten percent penalty for each calendar day delay.

Calculators: You may use a calculator at any time unless I specify otherwise. You will need a scientific calculator by 2 November.

Final Exam: The Final Exam will be on TWednesday, 15 December at 8:00 a.m.

Grade: Your grade is computed by weighing equally your averages in your Participation, the Assignments, the Tests, the Quizzes, the Writing Assignments and the Final Exam.

Assistance: I am eager to be of assistance to you outside of class. The masthead on this sheet tells you where and how to find me.

The Learning Center on the lower floor of Eiben Hall will provide you with a tutor free of charge. You must ask and you must keep the appointments you make with them.

The Math Lab offers tutoring on a drop in basis. It is located next to my office on the bottom floor of Henry Hall. It is generally open from 9:00 a.m., to 3:00 p.m. starting around 20 Sept.

Walter Paddington: His mission in life is to witness to such attitudes as: there is more to life than mathematics, success is more than high grades, each of us is unconditionally loved, each of us is a wonderful mystery. Walter is nearly always available for consultation. Consultation generally takes the form of hugging and/or holding.

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Course Calendar

31 Aug		
2 Sep	Assignment #1	
7 Sep		
9 Sep	Assignment #2	
14 Sep		
16 Sep	Assignment #3	
21 Sep		Quiz #1 on solving linear equations
23 Sep	Assignment #4	
28 Sep		Test #1
30 Sep	Assignment #5	
5 Oct		Writing Assignment #1
7 Oct	Assignment #6	
12 Oct		
14 Oct	Assignment #7	
19 Oct		Quiz #2 on factoring, solving quadratic equations.
21 Oct	Assignment #8	
26 Oct		Test #2
28 Oct	Assignment #9	
2 Nov		Writing Assignment #2
4 Nov	Assignment #10	
9 Nov		
16 Nov	Assignment #11	
18 Nov	Assignment #12	
23 Nov		
30 Nov	Assignment #13	Test #3
2 Dec	Assignment #14	
7 Dec	Quiz #3 on radicals, rational exponents, eqs with radicals.	
9 Dec	Assignment #15	Writing Assignment #3

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Syllabus

Real numbers: their properties and the four operations performed on them.

Order of operations; absolute value; integral exponents.

Polynomials and the four operations performed on them.
Synthetic division; the Remainder Theorem; the Factor Theorem.

Factoring polynomials; the Zero Factor Theorem; solving quadratic equations.

The four operations on rational expressions.

Equations: linear, quadratic, with rational expressions. Linear inequalities.

Systems of equations.

Radicals: their properties; the four operations performed on them.

Equations with radicals.

Rational exponents.

Functions: linear, quadratic; graphs; function concept; domain; range.

Circles.

Exponential function: properties, graph, applications.

Logarithmic function: properties, graph, applications; properties of logarithms.

Binomial theorem.

Sequences, series; sigma notation.

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Writing Assignments

Formatting:

These assignments must

- be typed or word processed;
- use double spacing
- be long enough to cover the topic;
- have mathematical expressions and equations written by hand unless you have access to an equation editor.

Original Examples: Make up your own examples of equations and problems. Do not copy these from the text or another book.

Grading Criteria:

- **Neatness**: the paper must have a professional appearance, easy to read. See the ***Formatting*** specifications above.
- **Completeness**: cover all pertinent aspects of the topic. I admit this is hard, but note my suggestion below.
- **Clarity**: can someone who is as ignorant as you were on 30 August 1999 understand your presentation? Is it in **good English**?
- **Originality** of examples (see above).
- **Mathematical maturity of examples**: the greater the number of mathematical concepts that are incorporated into an example, the better! Be able to solve any problems you create.

A suggestion: You are welcome to prepare a rough draft of your paper and give it to me well before the due date. I can make suggestions and return your draft with them.

See the reverse side of this sheet for the topics.

The Topics:

Polynomials: Your paper should 1) define a polynomial and that will require that you define a "term". 2) Tell how to determine the degree of a polynomial. 3) Tell how to determine whether a plynomial is a monomial, a brinomial, a trinomial or simply a polynomial. 4) Tell how to perform the four operations on polynomials. You must given examples besides writing in good, complete English sentences. This will take at least three or four pages.

Solving an Equation: Consider this equation:

$$\frac{2}{5} - \frac{3}{2}(4p - 3) = \frac{3}{2} - \frac{2p}{5}$$

How can you tell that this is an equation?

What kind of equation is it: linear, quadratic, exponential, logarithmic?

How can you tell what kind of equation it is?

In good, complete English sentences, a paragraph, tell how you will solve this equation.

Solve the equation.

This might take a couple of pages.

Solving Quadratic Equations

How can you tell whether an equation is a quadratic equation?

We have learned at least three methods of solving quadratic equations. Write a paragraph about each method telling, in good complete English sentences, how to use it for solving a quadratic equation. That is, tell what the steps are.

Create a different example of quadratic equation for each of the three methods. Then use the corresponding method to solve the equation that is its example.

This should take two or three pages.