

# **MAC 1105 College Algebra Syllabus**

# Syllabus

## College Algebra-Plant City MAC 1105 - 3 Hours Credit

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**INSTRUCTOR NAME:** Mrs. Jeanne Baird

**TELEPHONE NUMBER:** Use email [jbaird@hccfl.edu](mailto:jbaird@hccfl.edu)

**INSTRUCTOR OFFICE HOURS:** ● Summer 2006

### Schedule

**LOCATION OF OFFICE:** Plant City Campus - PADM 153

**COURSE MEETING TIME:** - Mon, Wed 8:00 - 10:10 am - Room  
PADM 106

Tue, Thur 5:30 - 7:40 pm - Room

PADM 106

**COURSE DESCRIPTION:** This course provides students with the opportunity to gain algebraic knowledge needed for many fields such engineering, business, science, computer technology and mathematics. Graphical and numerical methods support the study of functions and their corresponding equations and inequalities. Students will study linear, quadratic, polynomial, rational, exponential, logarithmic, inverse, composite, radical and absolute value functions. Other topics include: systems of equations and inequalities, modeling applied problems, and curve fitting techniques.

**NOTE:** You will be required to use a calculator. College level reading, writing and math skills are required.

### **COURSE OBJECTIVES:**

1. Show extended knowledge of objectives presented in prerequisite courses.
2. Solve applied problems from the sciences, engineering, math and business with appropriate math functions and equations.
3. Use the laws of exponents to simplify exponential expressions.
4. Convert radical expressions to expressions involving rational exponents.
5. Be able to support algebraic techniques graphically, numerically and verbally.
6. Know and apply the characteristics of the following types of functions:  
linear, linear absolute value, quadratic, radical, polynomial, rational, exponential and logarithmic
7. Find the domain and range among real numbers of given functions.

8. Show understanding of and be able to use functional notation.
9. Find the composition of two functions and give the domain of the composition.
10. Decompose a composite function into two functions.
11. Know, apply the definition of one-to-one function, recognize graphically the properties of one-to-one functions.
12. Know and apply the definition of inverse function.
13. Determine the inverse of a one-to-one function; numerically, graphically and symbolically.
14. Be able to restrict the domain of a function that is not one-to-one to create a function with that characteristic.
15. Show understanding of the relationships present between a function and its inverse.
16. Solve applied optimization problems graphically.
17. Solve applied optimization problems involving the quadratic function symbolically.
18. Find functions and corresponding equations that model relationships in practical applications.
19. Determine the function (linear, quadratic, polynomial or exponential) that best approximates the relationship between a given set of input-output values (ordered pairs).
20. Express as equations statements involving direct, inverse and joint variation or proportion.
21. Solve problems involving variation or proportion.
22. Convert logarithmic equations to exponential equations and vice versa.
23. Use the properties of logarithms including the change of base formula.
24. Use the function keys on a calculator to solve problems.
25. Solve exponential and logarithmic equations.
26. Solve practical applications involving exponential growth and decay.
27. Solve a system of nonlinear equations in two unknowns.
28. Solve a system of at least 4 linear equations by substitution.
29. Solve a system of inequalities graphically.

**Prerequisites:** A minimum grade of C in MAT 1033, or required score on HCC placement test.

**TEXTBOOK:** College Algebra by Blitzer, Third Edition

**TESTING:** Exam 1 - Chapter 1,2

Exam 2 - Chapter 2 and 3

Exam 3 - Chapter 4,5,6

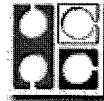
**Final Exam** will replace the lowest test, **AND** will count again as the final.

There are no make-up exams, you may take the exam by arranging a time with me until all exams are returned to the class. The final will replace ONLY one missing exam.

**Attendance Policy: You are expected to attend class**  
**GRADING:**

**A = 90 - 100 C = 70 - 79**

**B = 80 - 89 D = 60 - 69**



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**REQUEST FOR ACCOMMODATIONS:**

**If, to participate in this course, you require an accommodation due to a physical or learning impairment, you must contact the Office of Services to Students with Disabilities. The office is in building PSTU 101C. You may reach the office by telephone at (813) 757-2209**

**Last Updated May 12, 2006**