

**SOUTH FLORIDA STATE COLLEGE  
DIVISION OF ARTS AND SCIENCES  
COURSE SYLLABUS**

***MAC 1105 College Algebra (3 credit hours)***

**Welcome:**

I want you to be successful in this course and I will do anything I can to help you succeed. Please do not hesitate to ask questions, or for help on any concept. Ultimately, it is you who must be responsible for doing the work necessary to achieve the grade you desire. Keep in mind that college is not an institution where students receive all of their education in the classroom. Most learning happens outside the classroom, so be prepared to work hard on your own. Use your grit....

**GRIT:**

Grit is having passion, dedication, and perseverance to achieve long term goals. Be passionate about your journey, even if the current situation doesn't reflect your long- term goal. Use stamina and dedication to stick to your goal, day in and day out, year in and year out until you make it a reality. Persevere through discouraging situations by being steady and determined since failure is not a permanent condition.

Keep in mind that talent is not grit. The ability to learn is not fixed, it can be changed and molded through grit. Here is a list of ways to start increasing grit:

- Be on time
- Good work ethic
- Effort
- Courage
- Positive attitude
- Doing extra
- Passion and energy
- Being prepared
- Staying committed
- Follow through
- Resilience
- Set priorities

Setting and reaching goals will lead to greater success and can be more fulfilling. Goals are only as small or big as you choose to make them. If your goals seem unreachable, remember to use your GRIT!

## Catalog Description:

Topics included are functions and functional notation, domains and ranges of functions, graphs of relations and functions, operations on functions, inverse functions, quadratic functions, rational functions, absolute value functions, radical functions, exponential and logarithmic equations, systems of linear equations and inequalities, and applications. You will be required to demonstrate college-level understanding and competency of these topics through multiple assignments and assessments and must earn a grade of C or higher in this course. A scientific calculator is required for this course.

### Course Specific Outcomes:

Upon successful completion of this course, you should be able to:

1. define and identify relations and functions;
2. find the domain and range of a relation;
3. apply the vertical line test;
4. use function notation;
5. identify linear functions;
6. solve application problems involving linear functions;
7. form new functions by combining two or more functions using addition, subtraction, multiplication, or division;
8. form the composite of two functions;
9. sketch graphs of quadratic functions manually;
10. determine whether a function is odd or even from its equation or from its graph;
11. apply graphical transformations of horizontal and vertical shifts, or reflections involving the x- and y- axes;
12. identify intervals over which a function is increasing or decreasing;
13. graph functions defined piecewise;
14. solve and graph radical equations;
15. find maximum and minimum values of a function;
16. solve and graph absolute value functions;
17. solve and graph rational functions;
18. solve application problems involving quadratic functions;
19. identify exponential functions as models of exponential growth or decay;
20. graph exponential functions;
21. solve application problems involving exponential functions;
22. evaluate logarithms;
23. apply the properties of logarithms;
24. convert between exponential and logarithmic forms of an equation;
25. solve exponential and logarithmic equations;
26. solve application problems involving logarithmic equations;
27. solve linear and nonlinear systems of equations in two and three variables by the substitution and elimination methods;
28. solve application problems using systems of equations and linear programming;
29. distinguish between exact answers and approximations; and
30. approximate the solutions to equations and inequalities both graphically and numerically.

**Prerequisites:**

Designated score on college entrance exam or placement test, or MAT 1033 with a grade of C or higher

**Required Course Materials:**

*College Algebra, by Lial, et al. 2019. ISBN 9780134697024*

Scientific calculator

**Instructional Methods:**

Lecture, demonstration, and question-answer format, online activities

**Course Resources:**

Tutor.com (link in Panther Central)

[www.khanacademy.org](http://www.khanacademy.org)

[http://www.wtamu.edu/academic/anns/mps/math/mathlab/col\\_algebra/index.htm](http://www.wtamu.edu/academic/anns/mps/math/mathlab/col_algebra/index.htm)

[www.algebra.com](http://www.algebra.com)

[www.algebrahelp.com](http://www.algebrahelp.com)

[www.sosmath.com](http://www.sosmath.com)

[www.purplemath.com](http://www.purplemath.com)

**Class Attendance and Tardy Policy:**

You are expected to attend all classes. It is your responsibility and is to your benefit. While your attendance will not be computed directly into your course grade, experience indicates that missing class generally adversely affects a student's grade. In extremely rare instances, an exception to this policy may be granted if you contact me prior to the absence and have a reason deemed appropriate. If it is necessary for you to miss a class, you are responsible for all material covered and assignments made during your absence. Zoom sessions are an option for quarantined students.

Be sure you are in class **prior to the start time**. Tardiness is very detrimental to your work and disruptive to other students' concentration and disrupts the continuity of the class. With this in mind as well as for security purposes, tardy students will not be admitted to the class after the door is locked.

### Course Requirements:

Your performance in this course will be measured by your performance on examinations, online activities, and quizzes.

- Each test is worth 100 points. There are no make-up tests allowed. There is an accumulative final to replace the lowest test grade.
- Each Quiz is worth 25 points.
- Online activities and assignments will be determined when assigned.
- No late work will be accepted.
- Expect to devote a minimum of 2 hours outside of class to reading, studying, and working problems in preparation for each class hour.
- Grading schemas may vary from instructor to instructor.

### Grading:

100-90	<b>A</b>
89-80	<b>B</b>
79-70	<b>C</b>
69-60	<b>D</b>
59 and lower	<b>F</b>

DISCLAIMER: Course policies, procedures, and schedule may be changed at any time at the discretion of the instructor. You will be advised of any changes in writing.