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OFFICE HOURS: After School / Appt.

SEMESTER: FALL 2015

I. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

MAC 1105 COLLEGE ALGEBRA (3 CREDITS)

Topics include linear, quadratic, rational, radical, exponential, and logarithmic functions. Graphing and applications are emphasized. A graphing calculator is required. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement. Credit is not given for both MAC 1105 and MAC 1106.

II. **PREREQUISITES FOR THIS COURSE:**

MAT 1033 with a minimum grade of "C," or appropriate CLM score

CO-REQUISITES FOR THIS COURSE:

None

III. **GENERAL COURSE INFORMATION:** Topic Outline.

- Functions and functional notation
- Domains and ranges of functions
- Graphs of functions and relations
- Operations on functions
- Inverse functions
- Linear, quadratic, and rational functions
- Absolute value and radical functions
- Exponential and logarithmic properties, functions, and equations
- Systems of equations and inequalities
- Applications (such as curve fitting, modeling, optimization, exponential and logarithmic growth and decay)
- Use of a graphing calculator

IV. **LEARNING OUTCOMES AND ASSESSMENT:**

GENERAL EDUCATION COMPETENCIES:

General education courses must meet at least four out of the five following outcomes. All other courses

will meet one or more of these outcomes.

Communication (COM): To communicate effectively using standard English (written or oral).

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

ADDITIONAL COURSE COMPETENCIES:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

LEARNING OUTCOMES	ASSESSMENTS	GENERAL EDUCATION COMPETENCIES
Use set builder and interval notation to express the domain and range of a function defined graphically and defined algebraically.	Homework and/or quizzes and/or tests and/or group assignments and/or projects.	
Evaluate graphically and algebraically defined functions, including piecewise-defined functions.		
Perform operations on functions, including compositions and difference quotients.		
Evaluate and interpret the slope and y-intercept of a line, both analytically and graphically.		TIM
Interpret slope as a rate of change.		
Construct the equation of a line using a point and the slope or two points.		
Determine the distance between two points and the midpoint of a line segment.		
Apply the Pythagorean Theorem to real world examples.		
Graph relations and functions and classify which relations are functions.		
Use transformation techniques on a given graphically represented function, or on a basic algebraic function, to construct the graph of a related function.		
Determine and defend whether a function is one-to-one, and if so, find its inverse algebraically and/or graphically.		

Given the equation of a linear, quadratic, rational, radical, absolute value, exponential, or logarithmic function, graph the function using its defining properties.		COM
Determine the optimum value of a quadratic function.		
Evaluate logarithmic and exponential expressions.		
Solve exponential and logarithmic equations by applying the properties of logarithms and exponents.		
Select and apply which of the techniques, elimination, substitution, or graphing would be most efficient to solve systems of linear and non-linear equations.		QR
Graph the solution to systems of inequalities.		
Interpret and solve application problems.		CT

V. **DISTRICT-WIDE POLICIES:**

PROGRAMS FOR STUDENTS WITH DISABILITIES

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

REPORTING TITLE IX VIOLATIONS

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct. Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at equity@fsw.edu. Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online. Additional information and resources can be found on the College's website at <http://www.fsw.edu/sexualassault>.

VI. **REQUIREMENTS FOR THE STUDENTS:**

In addition to attending lecture three days a week, students will be required to complete computer assignments as outlined in My Labs Plus. The computer assignments, combined with five chapter tests and a cumulative final exam will be used to generate a final course grade.

- **MyMathLabPlus (MMLP):**

All students are required to purchase access to MMLP.

- Online assignments are found on the MMLP website: <http://fsw.mylabsplus.com>

- Students who have a password from a prior semester will be able to login using their old credentials. Students who do not have an established password or who have forgotten their password should go to the website, select the "Forgot Your Password" link, enter their FSW username as the User ID, and then select request password reset. An email with a link for resetting the password will be sent from

PasswordReset@ResetCredentials.com to the student's FSW email account.

- **HOMEWORK ASSIGNMENTS: MyMathLabPlus (MMLP)**
 - Students will complete all on-line homework assignments posted in MMLP; see Section XI: Class Schedule.
 - Students should print a copy of the assignment and work out all problems with pencil and paper. Work should be neatly organized and should show steps in the solution process rather than just answers. Homework should be stored in a notebook dedicated to the course. That notebook should be brought to class each day.

 - **TESTS: In Class**
 - Students are expected to take five in-class tests as scheduled; see Section XI: Class Schedule.

 - **FINAL EXAM: In Class**
 - All students will complete an in-class departmental Final Exam as scheduled.

 - **MAKE-UP POLICY:** In case of sudden illness or emergency, students must contact the instructor as soon as they realize that they are unable to take an in-class test or the final exam at the scheduled time. Each case will be reviewed individually. If a student does not contact the instructor prior to missing an exam, detailed documentation such as a doctor's note, is a mandatory prerequisite for scheduling a makeup exam under such extenuating circumstances.

 - **CELL PHONE POLICY:** It is expected that cell phones and pagers will be turned off during class. Any student who uses his/her cell phone during class may be asked to leave the class.

 - **RESPECT:** Students are expected to treat each other and the professor with the utmost respect; they are expected to arrive to class on time, stay on task, and remain until class is dismissed. Obstruction or disruption of teaching, obscene or profane language, etc. will not be tolerated and may result in disciplinary action.

 - **ACADEMIC INTEGRITY:** While study groups are encouraged, unless otherwise announced by your instructor, all work turned in for a grade should be done independently. Any submission by a student of someone else's [work as his or her own or the use of any prohibited aids during testing constitutes cheating. This includes unauthorized](#) use of a solutions manual, mathematical software or website. The student will earn a zero for that assignment and will be referred to the Discipline Office. A second instance of academic dishonesty will result in a failing grade for the course. It is each student's responsibility to become familiar with the student code of conduct and academic integrity policy found in the Florida SouthWestern State College catalog.
- VII. ATTENDANCE POLICY:** CCPS student code of conduct will be enforced with the exception of the provisions for makeup work and exam.
- VIII. GRADING POLICY:**
The following is the numerical range used for grades in this course:

90 - 100	=	A
80 - 89	=	B
70 - 79	=	C
60 - 69	=	D
Below 60	=	F

(Note: The “incomplete” grade [“I”] will be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.”) The average of MMLP assignments, chapter tests, and final exam are all equally weighted.

Five EXAMS will be given according to the class Schedule XI. Only the best four of the five EXAMS will be used for evaluation. The final course grade will include the best four textbook exams, the final exam, and the overall average of MY LABS PLUS. The six methods of evaluation will be averaged (equally weighted) together to create the final course grade.

IX. REQUIRED COURSE MATERIALS:

- Lial, Margaret; Hornsby, John; Schneider, David; Daniels, Callie: College Algebra, 11th ed. Boston; Pearson 2013. (e-Text through My Labs Plus)
- MyMathLabPlus (sold separately or shrink-wrapped with the textbook)
- A TI-83 Plus or TI-84 graphing calculator, or equivalent, is required. The use of calculators with computer algebra systems (for example, TI-89’s and TI-92’s) is **not** permitted on tests or quizzes.

X. RESERVED MATERIALS FOR THE COURSE:

A copy of the textbook is on reserve in the Library.

XI. CLASS SCHEDULE: In general M W F will be days of lecture, T and TR are computer lab days.

The following is a tentative schedule of required topics. All topics will be covered, but dates on which they are covered may change based on student needs and pedagogical concerns. Since this is a tentative schedule it is in your best interest to attend class regularly and to check the CANVAS course page and MyMathLabPlus for announcements of changes. The topics listed below are located in the electronic textbook copy in MMLP. The hard copy text (5th ed.) will be used in class for reference.

WEEK 1	8-17	Orientation, Chapter 1: sections 1.5, 1.6
WEEK 2	8-24	1.6, 1.7
WEEK 3	8-31	Chapter 2: section 2.1, review
WEEK 4	9-7	EXAM (1.5, 1.6, 1.7, 2.1) section 2.2
WEEK 5	9-14	sections 2.3, 2.4
WEEK 6	9-21	sections 2.5, 2.6, review
WEEK 7	9-28	EXAM (2.2-2.6) section 2.8
WEEK 8	10-5	Chapter 3: sections 3.1, 3.5
WEEK 9	10-12	section 2.7, review
WEEK 10	10-19	EXAM (2.8, 3.1, 3.5, 2.7) Chapter 4: section 4.1
WEEK 11	10-26	sections 4.2, 4.3, 4.4
WEEK 12	11-2	section 4.5 review
WEEK 13	11-9	EXAM (4.1-4.5) Chapter 5: section 5.1
WEEK 14	11-16	sections 5.2, 5.4
WEEK 15	11-23	THANKSGIVING RECESS
WEEK 16	11-30	sections 5.5, 5.6, review

WEEK 17 12-7 EXAM (5.1, 5.2, 5.4-5.6), final exam review
WEEK 18 12-14 FINAL EXAM December 15

XII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:

None