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OFFICE HOURS: After School / Appt.

SEMESTER: SPRING 2015

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

MAC 1140 PRE-CALCULUS ALGEBRA (3 CREDITS)

This is an algebra class designed to prepare students to enter either engineering or calculus courses. Topics covered include exponential and logarithmic functions, polynomials, rational functions, conic sections, sequences and series, mathematical induction, the binomial theorem, and matrices. 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 1140, or for both MAC 1140 and MAC 1147.

II. **PREREQUISITES FOR THIS COURSE:**

MAC 1105 with a minimum grade of "C" or appropriate CLM score

CO-REQUISITES FOR THIS COURSE:

None

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

- Polynomial, rational, and other algebraic functions, their properties and graphs
- Polynomial and rational inequalities
- Exponential and logarithmic functions, their properties and graphs
- Piecewise defined functions
- Conic sections
- Matrices and determinants
- Sequences and series
- Mathematical induction
- Binomial Theorem
- Applications

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
Determine the complex zeros, real zeros and linear factorization of a polynomial when given either a graphical or symbolic representation.	Students will demonstrate competency via one or more of the following assessment techniques: Written Assignments Presentations Homework Labs Group assignments Projects Quizzes Tests Final examination	
Analyze and sketch the graphs of polynomial and rational functions, including determining any asymptotes, intercepts and other critical values both algebraically and using technology.		
Solve polynomial and rational inequalities graphically and algebraically.		
Apply properties, algebraic techniques, and technology to solve exponential and logarithmic equations and interpret the solutions.		QR
Analyze and sketch the graphs of exponential and logarithmic functions.		
Apply appropriate mathematical properties to graph and interpret continuous and piece-wise functions.		
Determine the equation of a conic section given its graph or characteristics of its graph and vice versa.		
Perform matrix operations, evaluate inverses and determinants, and use the results to solve systems of linear equations.		
Use multiple approaches to solve systems of linear and non-linear equations and		

compare and contrast those approaches.		
Analyze sequences and series using patterning, formulas, and/or technology and extend these concepts to the use of mathematical induction and the binomial theorem.		CT
Use a graphing utility to determine a curve of best fit for given data.		TIM

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>.

VI. REQUIREMENTS FOR THE STUDENTS:

The instructor is to list specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc. [sample text for possible inclusion are included below]

• **MyMathLabPlus (MMLP):** [recommended statement below, MMLP is required!]

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 Username, and click on "continue." An email with a link for resetting the password will be sent from support@pearson.com to the student's FSW email account.
 - Students who are not able to purchase an access code at the beginning of the semester may obtain a temporary access code that **expires 21 days from the start of the semester (not from the first day of use)** by pressing the "Temporary Access" button in MyMathLabPlus. If this button is not immediately visible, click on Course Home and then look again. Students who have used a temporary code must wait until the temporary access expires before submitting a purchased access code. Work done prior to the temporary access expiration will be saved; but the student will not be able to do any additional work until the permanent access code has been submitted.

• **HOMEWORK ASSIGNMENTS: MyMathLabPlus (MMLP)**

- Students will complete all on-line homework assignments posted in MMLP; see Section XI: Class Schedule.
- [Sample statement] 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.
- [Sample statement if students are given due dates but allowed to work after the due date] **The**

student should complete each assignment by its due date. In most cases, the student will be able to submit all or part of an assignment late until the day of the test covering that material; however there will be a per day penalty (usually 10%) applied to all problems done after the deadline.

- **QUIZZES: MyMathLabPlus (MMLP)** (Instructor may choose to give quizzes in class or through MMLP or not to use quizzes. Adjust this section to reflect what you are doing in your class. Delete the section if you aren't using quizzes.)
 - Students will complete all chapter quizzes posted in MMLP; see Section XI: Class Schedule. [Sample statement]
- **CLASS PARTICIPATION: (If a component of the grade, describe what measures will be used to determine it; if it is not a component of the grade, you may omit this bullet.)**
- **TESTS: In Class**
 - Students are expected to take [insert #: in most courses 4 tests are given] in-class tests as scheduled; see Section XI: Class Schedule. [Include any other information about testing]
- **FINAL EXAM: In Class**
 - All students will complete an in-class departmental Final Exam as scheduled.
 - [The final in this course is a departmental final. Include additional information regarding the final].
- **MAKE-UP POLICY: [Sample statement: Each instructor should state his/her own makeup 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. Valid and detailed documentation is a prerequisite for scheduling a makeup exam under such extenuating circumstances.
[Sample statement 2] Make-ups may be given, but only in extreme circumstances, when the instructor has been contacted prior to the administration of the test and documentation of the reason for the absence has been presented to the instructor's satisfaction. An email or phone call to the instructor prior to the test should include phone numbers where the student can be reached. To qualify for a makeup, the student must have contacted the professor prior to the test, provide documentation of the reason for the absence and the student must be able to take the makeup in a timely manner, usually before graded tests are returned to students.
[Sample statement 3] Makeup tests are not given. If a student misses a test, then _____
- **CELL PHONE POLICY: [Sample statement]** Cell phones should never be heard ringing in the classroom. Out of respect for your fellow students and for the instructor, turn them off before coming to class. Do not send or read text messages during class. If, as a result of a family emergency, the student is expecting a truly important call during a class, inform the instructor of this fact in advance and set the cell phone to the vibrate mode. If a call does come in, the student should excuse himself/herself as unobtrusively as possible to take the call. Bear in mind that taking calls during class must not become routine; it is acceptable only during legitimate emergencies.
[Sample statement 2]. 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. [Sample statement]

- **ACADEMIC INTEGRITY:** [This is just a sample statement. According to the Academic Integrity policy, the instructor may: refer the student to the appropriate support service, assign a reduced grade on the assignment, or assign a reduced letter grade for the course or give an F as the course grade.]

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 Dean's 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:

[Insert your own policy on attendance, for example, will points be added or subtracted based on attendance... will a certain number of absences cause the student's grade to be lowered... or do you just want to encourage students to attend without reward or punishment? (The College policy on attendance is in the Catalog, and defers to the professor.)]

VIII. GRADING POLICY:

Include your components and weights (some faculty use cumulative points instead of a percent range. If you do, then use point ranges below)

{Sample statement}

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.")

IX. REQUIRED COURSE MATERIALS:

- Sullivan, Michael, and Michael Sullivan. *Algebra & Trigonometry: Enhanced with Graphing Utilities, 6e.* Upper Saddle River, NJ: Pearson/Prentice Hall, 2013. (Hard copy or electronic copy in MyMathLabPlus)
- 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:

The following is a tentative schedule of required topics. All topics listed will be covered, but dates on which they are covered may change based on student needs and pedagogical concerns. Since this is only a tentative schedule, it is in your best interests to attend class regularly and to check the CANVAS course page and MyMathLabPlus frequently for announcements of changes.

Week	Dates	Sections to Cover	Important Dates, Holidays, Misc.
1	Wednesday, January 7 – Tuesday, January 13	3.1, 3.2, 3.3, 3.4, 3.5	Tuesday, January 13: Last Day to Add courses, drop courses with a refund, change credit/audit status
2	Wednesday, January 14 – Tuesday, January 20	4.1, 4.2	Monday, January 19: College closed for Martin Luther King Day
3	Wednesday, January 21 – Tuesday, January 27	4.3, 3.6, 4.4	
4	Wednesday, January 28 – Tuesday, February 3	Test 1 , 5.1, 5.2	
5	Wednesday, February 4 – Tuesday, February 10	5.3, 5.4, 5.5	
6	Wednesday, February 11 – Tuesday, February 17	4.5, 5.6, 6.1	
7	Wednesday, February 18 – Tuesday, February 24	6.2, Test 2 , 6.3	
8	Wednesday, February 25 – Tuesday, March 10	6.4, 6.5, 6.6	NOTE: Spring Break is Monday, March 2 – Sunday, March 8
9	Wednesday, March 11 – Tuesday, March 17	6.8, 6.9, 11.2	
10	Wednesday, March 18 – Tuesday, March 24	11.3, 11.4	Friday, March 20: Last day to withdraw from individual courses or the college
11	Wednesday, March 25 – Tuesday, March 31	Test 3 , 12.1, 12.2	
12	Wednesday, April 1 – Tuesday, April 7	12.3, 12.4, 13.1	
13	Wednesday, April 8 – Tuesday, April 14	13.2, 13.3, 13.4	
14	Wednesday, April 15 – Tuesday, April 21	13.5, Test 4	

15	Wednesday, April 22 – Monday, April 27	Review for the Final Exam	
16	Tuesday, April 28 – Monday, May 4	Insert day and time of EXAM AS Listed in Official Final Exam Schedule	

XII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**[Sample]**

- For additional help with this course, the student may:
 - Send a message to the professor Send an email to _____. The student can expect a response from the Professor within 24-48 hours.
 - Meet with the Professor during posted office hours.
 - Seek On-Campus Assistance: Each Campus, as well as the Hendry/Glades Center, has at least one place where students can go for assistance with mathematics. All are available to each student, regardless of the location of his/her math class. Information on location and hours of operation is available at <http://www.fsw.edu/academicsupport>.
 - Request a tutor from the Florida SouthWestern State College Tutoring Center.
 - ***All of these services are available to the student at no additional cost.***