



WEIGHTED PRECALCULUS-11



INSTRUCTOR:

Anthony T Sorrentino III, MAT

E-MAIL: atsorren@salsgiver.com

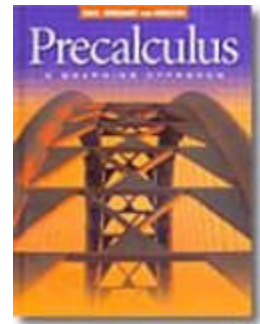
WEB PAGE: <http://teacherweb.com/PA/StJosephHS/MrSorrentino/>

PREREQUISITES:

Successful completion of Weighted Algebra 2 and/or teacher recommendation.

TEXT USED:

Hungerford, Jovell, & Mayberry. *Precalculus: A Graphing Approach*. Holt, Rinehart, and Winston Inc., 2002



COURSE DESCRIPTION:

This course is designed for students who desire to take Calculus through the University of Pittsburgh in their senior year. To prepare students for that course, this course introduces the topics that will act as “building blocks” for Calculus. Because this is a weighted course, this course is more fast-paced and is designed to be more challenging so the students become accustomed to the level of mastery they need to demonstrate in Calculus.

MATERIALS:

The following materials will be needed in each of the courses described above. It is the students' responsibility that they come with these materials each and every day of class.

- PENCILS*
- NOTEBOOK WITH FOLDER -OR- BINDER.
- BINDER (For Portfolio)
- SMALL NOTEBOOK (For Journal)
- TI-83 PLUS GRAPHING CALCULATOR (One will be issued to you.)♦

* Note: Pencils must be used on exams and quizzes. They will not be graded if they are written in ink.

♦ Although the TI-83 Plus is the model provided by SJHS, the TI-84 calculators are equivalent.

GRADING:

The following are what I base my grades on and the percentage weight I place on each for this course.

- EXAMS/QUIZZES --- 30%
- NOTEBOOK/ASSIGNMENTS/LABS --- 20%
- ATTENDANCE & CLASS PARTICIPATION --- 15%
- PORTFOLIO --- 25%
- FINAL EXAM --- 10%

<u>GRADE SCALE:</u>	90% – 100%	A
	80% – 89%	B
	70% – 79%	C
	60% – 69%	D
	Below 60%	F

ASSESSMENTS USED:

EXAMS/QUIZZES:

I use several examination style assessments in this course. These are as follows:

ANNOUNCED QUIZZES(Usually worth 20-30 points): These quizzes are used to assess the class' knowledge on several related topics that have been recently covered. These are announced at least 2 days before they are given.

EXAMINATIONS/TESTS (Usually worth 100 points): Tests assess the class' knowledge on an entire unit of study. These are announced at least one week ahead of time.

POP QUIZZES (Usually worth 10-15 points): These quizzes are unannounced and are used mostly to see if the class is keeping up with the material. It is also a means of assuring regular attendance. **STUDENTS WHO ARE NOT PRESENT ON THE DAY A POP QUIZ IS GIVEN CANNOT MAKE IT UP.**

NOTEBOOK/ASSIGNMENTS/LABS:

NOTEBOOK: Students are given notes in class and assignments from the textbook that have them practice the concepts of what was covered in class. Students are expected to keep these notes and assignments organized. Notebooks are generally checked twice every nine weeks. **Notebook checks are worth 100 points.**

ASSIGNMENTS: At times, assignments are given to allow students to have more practice with some topics or to use their knowledge of those topics to explore new situations. **Point values are awarded based on the complexity of the assignment.**

LABS: Computer/Calculator labs have been designed to introduce topics or apply concepts that are taught in this course. When possible, class time is given to allow students the time to at least start work on these labs. **Labs are typically worth 30-50 points depending on the amount of work needed to complete them.**

ASSESSMENTS USED (CONTINUED):

ATTENDANCE/CLASS PARTICIPATION:

A student's attendance is crucial for his/her understanding of math. Therefore, a student needs to be in class consistently. For the vast majority of students, the basic fact is this; YOU MUST ATTEND CLASS REGULARLY TO BE SUCCESSFUL. Absences are not held against students per se; however, their participation is assessed on a daily basis. The following questions are considered when determining this grade.

- Does the student arrive on time?
- Does the student come prepared with materials, homework, and anything else they need for that class?
- Does the student have to be told to take out his or her materials?
- Is the student attentive?
- Is the student disruptive?
- Does the student display extra effort?
- Does the student volunteer to show his/her work?
- Does the student show his/her work after I ask?
- Does the student ask questions during instruction?
- Does the student work when I give the class time during the period?
- Does the student make up work on his/her own after missing a class or classes?

A student can improve this grade at any time during any grading period by being in class often, making up work when missed, simply being respectful of the teacher and his/her classmates, and participating actively in class.

PORTFOLIO:

Throughout the year, students will work on various assignments that will make up their portfolio. This alternate assessment permits ALL students to demonstrate their achievement in this course. The portfolio is made up of the following components.

JOURNAL (100 points): Students will be expected to keep a math process journal throughout the year. This should be kept in a notebook separate from their class notes and homework. More detail about this component will be given in separate directions for the journal that has been given to the students.

PORTFOLIO PROJECTS (50 points each): Students are assigned a packet of portfolio projects at the beginning of the year. These projects are designed for students to apply what they have learned to new situations and demonstrate their ability to problem solve. Projects from this packet are due throughout the year and submitted for a grade. Based on the grade, students are expected to correct the project before submitting it with the final portfolio at the end of the year.

FINAL PORTFOLIO ASSESSMENT (500 points): The final portfolio consists of the following.

- THE COMPLETE JOURNAL
- ALL PORTFOLIO PROJECTS
- ADDITIONAL ARTIFACTS
- SELF-REFLECTIVE PAPER

More information about these and their point values are given in the document FINAL PORTFOLIO ASSESSMENT which can be found on my website.

LATE ASSIGNMENTS/EXAMS:

Except under extenuating circumstances (severe illness, injury, family emergency, etc.) assignments are to be turned in on the due date, and exams are to be taken as scheduled.

Students absent on the day of an exam will be expected to take that exam the first day back from that absence that allows me to give it. A student will be informed and a message will be posted in PowerSchool regarding the date the student is to make up the test. If a student fails to make up the exam on that date, it will then be considered late.

Once an assignment or exam is categorized as late, the student will lose 10% of the points for each school day that the assignment is not turned in or the test is not taken. The maximum amount of points a student will lose for lateness is 50%. Additional points may be deducted due to the student's performance on the assignment or exam.

Students who are absent for an extended period of time will be given sufficient time to make up exams or assignments, however, once a due date has been set, the student must make up the work by that date or have the deductions mentioned above taken.

ACADEMIC INTEGRITY:

Cheating is not tolerated in my classroom. Cheating is not fair to yourself as I am unable to truly assess your progress. It is also not fair to the students who work hard to earn their grade.

Therefore, this course will define CHEATING as the following:

1. Copying work off of someone else.
2. Having another person complete the work for you.
3. Talking during a test.
4. Using notes or anything else not permitted during an exam.
5. Failure to follow certain instructions during a test

Anyone caught doing any of the above will be subject to the following actions.

1st incident: Student receives an F on the assignment or exam. Administration notified. Parents notified by having to sign the exam/assignment on which the student cheated.

2nd incident: Student receives an F on every grade for the quarter up to and including the exam/assignment on which he/she cheated. Parent/Teacher/Student conference. Administration notified.

Frequent infractions can cause the student to fail the course.

CHEATING IS WRONG AND WILL NOT BE TOLERATED IN THE CLASSROOM.

A FINAL NOTE:

Although I teach in a style that emphasizes student responsibility, I realize that there will be times that students may require extra assistance in this course. I am always willing to assist any student who needs extra help either after school or through some other arrangement. Although I may not be able to stay with a student on a particular day due to other commitments, I am always willing to make arrangements to help my students outside of class.

In order for me to help my students, I would like to be informed of anything I need to know to do so. If any student or student's parents feel that the student's progress in my class is not up to their expectations, then please feel free to contact me so we can arrange a meeting to discuss this. I can only meet my full potential as a teacher when I am kept informed of all pertinent educational decisions regarding my students.

PART 1: ALGEBRA REVIEW

(A) LINEAR & QUADRATIC EQUATIONS

SECTION 1.4 (LINES): pp.40-42 #1-10, 17-43 odd, 53, 57, 62-63

SECTION 1.5 (LINEAR MODELS): pp. 53-57 #4-7, 14, 18-19, 24

SECTION 2.1 (SOLVING EQUATIONS GRAPHICALLY w/ Calculator):
p. 87 #7-39 odd

SECTION 2.2 (SOLVING QUADRATIC EQUATIONS ALGEBRAICALLY):
pp. 95-96 #3-30 every 3rd problem

SECTION 2.3 (APPLICATIONS OF EQUATIONS): pp. 105-106 #5-27 odd

{ SECTION 2.4 (OTHER TYPES OF EQUATIONS): p. 117 #9-20
SECTION 2.5 (INEQUALITIES): p. 124 #11-45 odd
SECTION 2.5A (ABSOLUTE VALUE INEQUALITIES): p. 131 #1-23 odd

(B) FUNCTIONS

SECTION 3.1 (FUNCTION BASICS):
pp. 148-149 #5-12, 13-33 odd, 35-42, 43-55 odd, 59-62

SECTION 3.2 (GRAPHS OF FUNCTIONS):
pp. 160-162 #1-14, 19-22, 29, 31, 33-36, 41-44, 62-67

SECTION 3.3 (QUADRATIC FUNCTIONS):
pp. 170-172 #1-25 odd, 42-48, 50-52

{ SECTION 3.4 (GRAPH TRANSFORMATIONS): Complete Worksheet
SECTION 3.4A (SYMMETRY): pp. 189-190 #1-17 odd, 19-22, 25-31 odd

SECTION 3.5 (OPERATIONS WITH FUNCTIONS):
pp. 196-197 #1-31 odd, 41-44

SECTION 3.6 (INVERSE FUNCTIONS): pp. 212-213 #1-4, 9-49 odd

(C) REVIEW OF CONIC SECTIONS

Complete Review of Conic Section Formulas Worksheet

SECTION 11.4 (TRANSLATION OF CONIC SECTIONS):
pp. 726-727 #1-39 odd + Worksheets

(D) SYSTEMS OF EQUATIONS

SECTION 12.1 (LINEAR SYSTEMS): pp. 788-789 #15-30, 40-43
SECTION 12.5 (NONLINEAR SYSTEMS): pp. 824-825 #1-12, 37-45



LABS:

REGRESSION REVIEW

PORTFOLIO PROJECTS:

I TAUGHT I TAW A PUTTY TAT
PRESSED FOR TIME
STATE CHAMPIONSHIP LOGIC PROBLEM
MATH PYROTECHNICS

PART 2: ADVANCED ALGEBRA

(A) EXPONENTS & LOGARITHMS

SECTION 5.1 (RADICALS & RATIONAL EXPONENTS):

pp. 334-335 #3-84 every 3rd problem, 85-88

SECTION 5.2 (EXPONENTIAL FUNCTIONS):

pp. 343-344 #1-12 (parent function given), 40-43

SECTION 5.3 (APPLICATIONS OF EXPONENTIAL FUNCTIONS):

pp. 353-355 #1-25 odd, 40, 41, 44, 50, 51

SECTION 5.4 (PROPERTIES OF LOGARITHMS):

pp. 361-362 #5-40, 43-48

SECTION 5.5/5.5A (RADICALS & RATIONAL EXPONENTS):

pp. 369-370 #1-10, 11-25 odd

pp. 376-378 #2-20 even, 21-28, 30-39 every 3rd problem, 41-67 odd

SECTION 5.6 (EXPONENTIAL & LOGARITHMIC EQUATIONS):

pp. 386-388 #3-48 every 3rd problem, 49-71 odd

(B) SEQUENCES & SERIES

SECTION 1.2 (MATHEMATICAL PATTERNS): pp. 19-20 #1-12, 13-19 odd

SECTION 1.3 (ARITHMETIC SEQUENCES): pp. 29-30 #1-22, 25-30, 31-43 odd

SECTION 1.6 (GEOMETRIC SEQUENCES):

pp. 63-64 #1-8, 9-17 odd, 23-33, 37-39

p. 79 #1-14

(C) LIMITS & RATES OF CHANGE

***PowerPoint presentation and study guide.

(D) BASIC LIMIT & DERIVATIVE RULES

*** Study Guide

(E) POLYNOMIAL FUNCTIONS

***Study Guide

(F) RATIONAL & RADICAL FUNCTIONS

RATIONAL FUNCTIONS

SECTION 4.4: pp. 290-291 #7-45 odd

SECTION 2.4: p. 117 #58-63

SECTION 2.5 p. 125 #57-64

RADICAL EQUATIONS

SECTION 2.4: pp. 116-117 #29-45 odd

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LABS:

EXPONENTIAL REGRESSIONS
POLYNOMIAL EXPLORATIONS
SEQUENCES INVESTIGATION

PORTFOLIO PROJECTS:

DATING FOSSILS
SWIMMING POOL MAINTENANCE
POLYNOMIAL REGRESSION EXPLORATION
CONTAINER CONSTRUCTION

PART 3: TRIGONOMETRY

******* FOLLOW STUDY GUIDE *******

[This will cover topics from Chapters 6-8, and 10]

CHAPTER 9 INDEPENDENT STUDY

SECTION 11.7 (PARAMETRIC FUNCTIONS):

pp. 763-764 #15-24 (draw graphs as well), 37-41 odd, Discussion on Cycloid

SECTION 11.5 (POLAR COORDINATES): pp. 743-744 #7-16, 17-43 odd

[Time Permitting]

LABS:

INTRODUCTION TO TRIGONOMETRY

TRIGONOMETRY OF NON-RIGHT TRIANGLES

INTRODUCTION TO RADIUS MEASUREMENT

TRIGONOMETRIC FUNCTIONS, ROTATIONS, &
RADIANT MEASUREMENT

TRIGONOMETRIC GRAPH EXPLORATION

PORTFOLIO PROJECTS:

PROJECTILE MOTION

HOW HIGH IS ST. JOE'S HIGH?

TRIGONOMETRIC APPLICATIONS

AN EPIC ADVENTURE

MORE TRIGONOMETRIC GRAPHS

ACKNOWLEDGEMENT

I have read the course description and class expectations for the **WEIGHTED PRECALCULUS-11** course and I am aware of the classroom expectations in this course.

STUDENT NAME: _____

STUDENT SIGNATURE: _____

PARENT SIGNATURE: _____