Course Syllabus for
Math 185 Fall 2007
FOUNDATIONS OF MATHEMATICS FOR ELEMENTARY TEACHERS (II)

CLASS: Math 185.02 MW 9:30-10:50

INSTRUCTOR: Dr. Max Coleman
       Office: Room 417F, Lee Drain Building
       Phone: 294-1570
       Email: mcoleman@shsu.edu
       Office Hours: Mon.- Fri. 9:00 - 9:30 and 11:00 – 12:00
               Others by Appointment

COURSE DESCRIPTION:
This course is the second in a series of courses designed to develop the necessary foundations in mathematics for prospective elementary teachers. Students are expected to practice communications skills and participate in hands-on activities, including the use of math manipulatives and technology. Topics will include National and Texas standards for teaching mathematics, decimals, the real number system, geometry, and measurement. The four main themes recommended by the NCTM Principles and Standards (problem solving, reasoning, communication, and connections) will be emphasized throughout this course. Students will also participate in class discussions and group work during this course.   Prerequisite: Math 184 with a grade of C or better. 3 semester hours.

COURSE OBJECTIVES:
Upon completion of this course, students will be able to:
- Select appropriate representations of decimals and percents for particular situations
- Demonstrate an understanding of a variety of models for representing decimals and percents
- Work proficiently with decimals and their operations
- Use a variety of concrete and visual representations to demonstrate the connections between decimal operations and algorithms
- Solve ratio and proportion problems
- Select and use appropriate units of measurement (e.g., temperature, money, mass, weight, area, capacity, density, percents, speed, acceleration) to quantify, compare, and communicate information
- Develop, justify, and use conversions within measurement systems
- Describe the precision of measurement and the effects of error on measurement
- Apply the Pythagorean theorem and proportional reasoning, to solve measurement problems
- Understand concepts and properties of points, lines, planes, angles, lengths, and distances
- Analyze and apply the properties of parallel and perpendicular lines
- Use the properties of congruent triangles to explore geometric relationships
- Use and understand the development of formulas to find lengths, perimeters, areas, and volumes of basic geometric figures
- Apply relationships among similar figures, scale, and proportion and analyze how changes in scale affect area and volume measurements
- Use a variety of representations (e.g., numeric, verbal, graphic, symbolic) to analyze and solve problems involving two- and three-dimensional figures such as circles, triangles, polygons, cylinders, and prisms
- Use translations, reflections, glide-reflections, and rotations to demonstrate congruence and to explore the symmetries of figures
- Use dilations (expansions and contractions) to illustrate similar figures and proportionality
- Use symmetry to describe tessellations and shows how they can be used to illustrate geometric concepts, properties, and relationships

TEXT:

Long, Calvin and DeTemple, Duane W. (2006). Mathematical Reasoning for Elementary Teachers (Fourth Edition). Boston, MA: Pearson Education, Inc.

Attendance Policy

      Attendance is *extremely* important. Regular and punctual attendance is expected of every student. As a prospective teacher, you must demonstrate your reliability and conscientious attitude by your faithful attendance. Students who have two or less absences during the semester will be allowed to substitute their final exam grade for their lowest grade on the three major exams.
Attendance will be taken every class. If you are late to class, it is your responsibility to notify the instructor immediately after class. Any student who is more than 30 minutes late to class will be counted absent. Tardies will count against your attendance record (2 tardies = 1 absence). Unless approved by the instructor, leaving class early will count as an absence. If absent or tardy, you are still responsible for all material covered in class, and you will need to check with a classmate about what was discussed. Serious health or family problems that are well documented will be handled individually. In addition to attending class faithfully, students are expected to put forth their best effort in this class.

Make-up Tests:

      Unless approved by the instructor prior to the date of a test, there will be no make-up for a missed test. If a student misses a test, then the score on the final exam will be given for the first test missed. A score of zero will be given for any subsequent missed exams. A missed final examination can be made up only by approval of the Dean of the College of Arts and Sciences or a higher administrative official.

Major Examinations

There will be three major examinations in this course. You should notify the instructor in advance if you must miss a class during which time a major examination is scheduled. The instructor, at his discretion, may allow you to take the exam at a different time. In the event this is not possible, the final exam grade will replace the exam missed. Each major exam will be worth 100 points.

Final Examination

The final examination is comprehensive. It will be worth 100 points.

Grading Plan

The course grade will be determined by the average of the three (3) major exam grades and the final exam grade. Students with 2 or less absences will have the option of replacing their lowest major exam grade with the final exam grade. If the final exam grade is replacing a missed exam, the final exam grade will be used in place of only the missed exam. The letter grade will be determined as follows: (as a percent)

90 – 100	A	60 – 69	D
80 – 89	B	< 60	F
70 – 79	C		

Academic Dishonesty

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Classroom Rules of Conduct

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Visitors in the Classroom

Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

Americans with Disabilities Act

It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request assistance with academically related problem stemming from individual disabilities by contacting the Director of the Counseling Center in the Lee Drain Annex or by calling 936-294-1720.

Religious Holidays

A student who is absent from class for the observance of a religious holy day will be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. Students will be excused to travel for observance of a religious holy day. A student who wishes to be excused for a religious holy day must present the instructor with a written statement describing the holy day(s) and the travel involved. Upon receiving the statement the instructor will provide the student with a written description of the deadline for the completion of missed exams or assignments.

Instructor Evaluations

You may be asked to complete a course/instructor evaluation form toward the end of the semester.
Syllabus Revision

The instructor reserves the right to revise any part of this syllabus as deemed necessary throughout the semester. Revision, if necessary, will be announced during class.

ATTENDANCE:

Regular and punctual attendance is expected of every student. As a prospective teacher, you must demonstrate your reliability and conscientious attitude by your faithful attendance. Students who have three or less absences during the semester will be allowed to substitute their final exam grade for their lowest grade on the three major exams.

Attendance will be taken every class. If you are late to class, it is your responsibility to let me know immediately after the class that was missed. Any student who is more than 30 minutes late to class will be counted absent. Tardies will count against your attendance record (3 tardies = 1 absence). Unless approved by the instructor, leaving class early will count as an absence. If absent or tardy, you are still responsible for all material covered in class, and you will need to check with a classmate or the instructor about what was discussed. Serious health or family problems that are well documented will be handled individually. In addition to attending class faithfully, students are expected to put forth their best effort in this class.

MAKE-UP TESTS AND WORK:

Unless approved by the instructor prior to the date of a test, there will be no make-up for a missed test. If a student misses a test, then the score on the final exam will be given for the first test missed. A score of zero will be given for any subsequent missed exams.   Late homework and projects will not be accepted. Zero points will be recorded for any assignment not turned in on or before the class date when it is due (even if you are absent that day). A missed final examination can be made up only by approval of the Dean of the College of Arts and Sciences or a higher administrative official.

COMPLIANCE WITH THE 1990 AMERICANS WITH DISABILITIES ACT

Sam Houston State University does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services, or activities. I would like to help students with disabilities to achieve their highest potential. In order to receive accommodations on exams and/or assignments, students must alert me to their situation as soon as possible and also provide The Counseling Center on campus with proper documentation of their needs.

FOOD AND DRINK POLICY

Food, tobacco products, and drinks (other than water) are not allowed in the classroom.

MATH 185 COURSE SCHEDULE (TENTATIVE)

TOPIC	READINGS
Introduction, standards	Supplemental material
Decimals	Chapter 7
Decimals, ratio, proportion	Chapter 7
Percents	Chapter 7

Exam #1

Geometric shapes	Chapter 11
Symmetry, lines/planes/angles	Chapter 11
Angles, polygons	Chapter 11
Tessellations, polyhedra	Chapter 11
Polyhedra	Chapter 11
Systems of Measurement	Chapter 12

Exam #2

Perimeter	Chapter 12
Area	Chapter 12
Volume	Chapter 12
Triangle congruence	Chapter 14
Triangle similarity	Chapter 14
Constructions, geometric problems	Chapter 14
Transformations	Chapter 13

Exam #3

Final Exam: Dec. 10, 11:00 am - 1:00 pm