Syllabus
Math 125: Mathematics for Elementary Teaching

Spring, 2012

email: ebersole@aol.com or debersole@northampton.edu

Dennis C. Ebersole
Home: (610)967-3747
Work:(610)861-5383

Text: Musser, Burger and Peterson, *Mathematics for Elementary Teachers* 20011, Ninth Edition, Wiley Publishing.

Office Hours will be held immediately after class on Wednesdays; other times by appointment.

This course is designed specifically for students who plan to teach in the elementary grades. There are two primary goals for the course: 1) that you will become confident in your ability to do and teach the mathematics needed by elementary teachers as defined by the Common Core State Standards, and 2) that you will have a successful experience learning mathematics in a model classroom that utilizes best practices, that implements the recommendations of the National Council of Teachers of Mathematics= (NCTM=s)*Principles and Standards for School Mathematics* (*Standards 2000*) and other recent national reports on elementary education. The following course objectives will assist you in meeting these two goals.

The students will be able to

1. Use the mathematics content of this course to model and solve realistic problems.
2. Use mathematical reasoning to find patterns, make and test conjectures, create simple proofs, or find counterexamples to show a conjecture is not true.
3. Communicate results and conjectures mathematically using words, tables, symbols, and graphs.
4. Make connections between the mathematics being learned and 1) other areas of mathematics, 2) other disciplines, 3) their daily lives.
5. Use technology as a tool to solve problems.
6. Use manipulatives to make mathematical concepts more concrete.
7. Work well as part of a team to define and complete projects.

The mathematics content in this course consists of sets, functions, integers, number theory, fractions, decimals, percents, probability, statistics, geometry, measurement, transformations, and tessellations. You may already know some of this content. In that case, you should concentrate on how to best teach the concepts to young students. We will use cooperative learning groups approximately one-third of the class time. In addition, manipulatives such as two color chips, Cuisenaire rods, and geoboards will be used to assist you (and later your students) in Aseeing@ and understanding difficult topics. Occasionally a graphing calculator will be used to assist you in finding patterns and understanding abstract concepts. A fraction calculator will be used frequently to assist us in solving problems and finding patterns. *You should purchase a fraction calculator to use in this course*. You will be expected to use a calculator as an elementary teacher. I recommend the Texas Instruments TI-15 Explorer calculator. Current recommendations are that all students should have access to an appropriate calculator at all times. It is the responsibility of the teacher to assist students in learning the appropriate use of technology. Current recommendations with respect to

computers are that at least one computer should be available for student use in each classroom and a computer lab should be available for class projects. One of your assignments will be to use the internet and the library to research and report on an aspect of the Common Core State Standards for Mathematics (CCSSM). You will also use the program Geometer's Sketchpad in several activities.

You will be assigned to a team for the semester. Your team will work together to solve problems and complete projects. Since we will be doing group work quite often, it is essential that you attend every class. If you are not present when a project is done, you must do the project on your own. The highest grade you can receive if this happens is an 80 unless you have a doctor's excuse for your absence. While you will work together to solve each problem or complete each project, I will collect all of the projects and choose only one ∧report@ to mark. Since you will not know which team member=s I will choose, it is essential that all team members agree on the correct answers and how to communicate them. Since it is essential that you master the material addressed by group projects, you will not receive a grade for a project until all mistakes have been corrected. I will make comments on the project to assist you in making the corrections. The team members will receive a grade of 100 for projects that are complete and correct.

Test Reviews: You will receive a review prior to each exam (including the final) so you know what types of questions to expect on the exam.

Homework: As you know, math is not a spectator sport. To become proficient you must practice what you learned. Homework exercises and reading will be assigned for each section. You are expected to complete these for the next class meeting.

Cell phones: Please turn off or put cell phones on vibrate during class. Use of a cell phone during a test or quiz will be considered a violation of the Academic Honesty Policy.

Special Accommodations: Students with disabilities who believe that they may need accommodations in their class are encouraged to contact the Learning Services Office as soon as possible to enhance the likelihood that such accommodations are implemented in a timely fashion.

Academic Honesty Policy Guidelines: Mathematics Courses:
The Department of Mathematics and Computer Science supports and is governed by the Academic Honesty Policy of Moravian College as stated in the Moravian College Students Handbook. The following statements will help clarify the policies of members of the Mathematics faculty. In all homework assignments which are to be graded, you may use your class notes and any books or library sources. When you use the ideas or thought of others, however, you must acknowledge the source. For graded homework assignments, you may not use a solution manual or the help, orally or in written form, of an individual other than your instructor. If you receive help from anyone other than your instructor or if you fail to reference your sources you will be violating the Academic Honesty Policy of Moravian College. For homework which is not to be graded, if you choose, you may work with your fellow students. You are responsible for understanding and being able to explain the solution of all assigned problems, both graded and ungraded. All in-class or take home tests and quizzes are to be completed by you alone without the aid of books, study sheets or formula sheets unless specifically allowed by your instructor for a particular test.

Accommodations

Students who wish to request accommodations in this class for a disability should contact Mr. Joe Kempfer, Assistant Director of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.

Grading

Emphasis:

Group Projects, Quizzes:	30%
Tests:	35%
Report: 10%	
Final Exam:	25%

Grades:

Course Average	Grade
93 - 100%	A
90 - 92%	A$^-$
87 - 89%	B$^+$
83 - 86%	B
80 - 82%	B$^-$
77 - 79%	C$^+$
73 - 76%	C
70 - 72%	C$^-$
60 - 69%	D
less than 60%	F
Withdrawal	W
Incomplete	I

Notes:
1. You are expected to be familiar with the College=s Academic Honesty Policy Guidelines.
2. Any test may be retaken, if you are dissatisfied with your grade. Your grade for any test that is retaken will be the retest grade minus 10 points. In no case will you be penalized for retaking a test.
3. You may not retake any quizzes.
4. If you have a doctor=s excuse, you will be allowed to make up work missed due to illness or injury.

Weekly Schedule

Week #	Activity
1	Chapter 1: Introduction to Problem Solving
2	Chapter 12: Geometric Shapes (Part 1); Quiz 1
3	Chapter 12 (Part 2)
4	Chapter 12 (Part 3); **Test 1** (Chapters 1 & 12)
5	Chapter 13: Measurement (Part 1)
6	Chapter 13 (Part 2); Quiz 2
7	Chapter 14: Geometry Using Triangle Congruence and Similarity (Part 1)
8	Chapter 14 (Part 2)
9	**Test 2** (Chapters 13 & 14); Chapter 6: Fractions
10	Chapter 7: Decimals, Ratio, Proportion, and Percent (Part 1)
11	Chapter 7 (Part 2); Quiz 3; Chapter 8: Integers
12	**Test 3** (Chapters 6 – 8); Chapter 10: Statistics (Part 1)
13	Chapter 10 (Part 2)
14	Review for Final
15	**Final Exam**