

Oakland University
Department of Mathematics and Statistics
Student Information Sheet and Syllabus

COURSE: MTE 2110, Mathematics for Elementary Education I, 4 credits

SEMESTER: Winter 2018

INSTRUCTOR: Mike Gosling
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office hours: before class, after class, and by appointment
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CATALOG DESCRIPTION: Mathematical problem solving; logic and sets; whole numbers and operations, number theory, extensions to integers, fractions, decimals, percents, real numbers; proportional reasoning.

COURSE OBJECTIVES: (1) to discuss in depth some of the subject matter of the elementary school mathematics curriculum, including problem solving, patterns, sets, logic, the natural numbers, integers, fractions, decimals, percents, irrational numbers, the arithmetic operations on these types of numbers, and applications (other important topics, including probability, statistics, and geometry, are covered in MTE 2111); (2) to develop the students' confidence in, facility with, understanding of, and insight into mathematics, by dealing with the material at a mature, challenging, and innovative level; (3) to develop the students' abilities to solve mathematics problems, communicate mathematics, and apply mathematical ideas and techniques in a variety of situations; (4) to overcome negative attitudes the students have about mathematics and help them value and appreciate the subject and find it exciting and interesting; and (5) to deal with pedagogical issues as they relate to content issues, including learning about current standards in mathematics education.

PREREQUISITES: A 2.0 or better in MTH 0662, or an equivalent course at another college, or placement "R" or "C" (via an ACT math score of 22 or higher or via department placement test). More advanced college courses in algebra or calculus (but not statistics) will also satisfy the prerequisite. *Prerequisites are strictly enforced, so that we can discuss the material in this course with the mathematical sophistication that it requires. If you do not meet the prerequisite, you will not be permitted to remain in the course.*

TEXTS: *A Problem Solving Approach to Mathematics for Elementary School Teachers*, (12th edition) by Billstein, Libeskind, and Lott, published by Pearson (2016). It has an on-line site with the textbook, solutions manual (which has worked-out solutions to some of the exercises in the textbook—answers, not worked-out solutions, to some of the exercises are also available in the back of the textbook), videos, and other features. You can buy just on-line access if you do not wish to have a physical book. We will cover most of chapters 1–8. Sometimes answers and solutions contain errors, so don't necessarily doubt your own work if it disagrees with the authors'. In addition, you are responsible for reading most of Principles and Standards for School Mathematics, published by the National Council of Teachers of Mathematics. You can purchase this from the NCTM if you wish (see their website), but it is available on-line to NCTM members, and the cost of a student membership is about the same as the cost of the book. Copies are also on 2-hour reserve in Kresge Library and the ERL.

CALCULATOR POLICY: For this course you will need a calculator with at least the four arithmetic operations and square root. You can get a simple one for about \$1 or fancier (“scientific”) ones (with many other functions) for more money (the TI-83, 84, or 86 are all wise choices if you plan to take courses like MTH 1441). Using a calculator’s memory to store information for a quiz, test, or exam is not permitted. You may not use your cell phone as a calculator during tests or quizzes.

TESTS: There will be two tests (each worth 20% of the final grade), with the first one on February 13 and the second one on April 3. These tests, as well as the quizzes and the final exam (see below), are closed book tests.

QUIZZES AND HOMEWORK: Homework from the textbook will be assigned regularly. You must do it conscientiously, but it is not collected or graded. We will go over any questions you have about these problems in class. Two quizzes (each worth 10% of the final grade) will be given, the first one on January 23 and the second one on March 13.

PROJECTS: There will be two projects (each worth 5% of the final grade). Each will be assigned, discussed, and due as stated in the following schedule.

FINAL EXAM: The final examination will be comprehensive. It will be given on Tuesday, April 24, 8:00-11:00 a.m. (worth 30% of the final grade).

EMERGENCY CLOSING: If the University is closed at the time of a scheduled quiz or test (for example, because of snow), it will be given during the next class period when the University reopens.

GRADING POLICY: There is no fixed grading scale for this course; a conversion formula from your percentage score to Oakland University grades will be determined at the end of the course. However, the following “standard scale” shows the lowest possible grade that a given percentage score will earn (the grade may be higher than this): 95%→4.0, 80%→3.0, 65%→2.0, 50%→1.0.

MAKE-UP POLICY: No make-up tests or make-up quizzes will be given. If you miss a test and have a valid excuse, your grade for the missed test will be based on the final exam; otherwise the missed test will be counted as a 0.

ACADEMIC HONESTY: Cheating is a serious academic crime. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found guilty of cheating in this course will receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Handing in written work that has essentially been copied from someone else is cheating. Receiving help from someone else or from unauthorized written material during a quiz, test, or exam is also cheating, as is using a calculator as an electronic “crib sheet”.

SUCCEEDING IN THE COURSE: The Department of Mathematics and Statistics is committed to achieving the goal of an academically sound freshman and sophomore mathematical sciences curriculum in which most conscientious Oakland University students can expect to be successful. We have found that most students work very hard in MTE 2110, and those who do usually succeed in it. You are encouraged to take advantage of the resources available to you: each other (forming study groups), your instructor’s office hours, the Academic Skills Center, the library, the World Wide Web, and your friends and family.

MTE 2110 Schedule* – Winter 2018

<u>Day</u>	<u>Date</u>	<u>Sections/Material Covered</u>
Th	1-4	Introduction, Chapter 1
T	1-9	Chapter 1
Th	1-11	Chapter 1
T	1-16	Chapter 2
Th	1-18	Chapter 2
T	1-23	Quiz 1 , Chapter 2
Th	1-25	Chapter 2
T	1-30	Chapter 3
Th	2-1	Chapter 3, Project 1 Assigned
T	2-6	Chapter 3
Th	2-8	Chapter 3
T	2-13	Test 1
Th	2-15	Chapter 4
T	2-27	Project 1 Due , Chapter 4
Th	3-1	Chapter 4
T	3-6	Module A
Th	3-8	Chapter 5
T	3-13	Quiz 2 , Chapter 5
Th	3-15	Chapter 6
T	3-20	Chapter 6
Th	3-22	Chapter 6, Project 2 Assigned
T	3-27	Chapter 7
Th	3-29	Chapter 7
T	4-3	Test 2
Th	4-5	Chapter 8
T	4-10	Chapter 8
Th	4-12	Chapter 8
T	4-17	Project 2 Due , Review
T	4-24	Final Exam (8:00-11:00)

*subject to change

IMPORTANT DATES:

- January 17: Last day for “no record” drops
- March 14: Last day for official withdrawal
- April 24: Final Exam 8:00 a.m. to 11:00 a.m.