

**OAKTON COMMUNITY COLLEGE SYLLABUS  
MATHEMATICS for ELEMENTARY TEACHERS 1  
Fall Semester 2009**

NC RESSLER  
Professor of Mathematics

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*meeting choice of room or computer classroom*  
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### **I. Course**

**Math for Elementary Teachers I (Mathematics 128)**

### **II. Prerequisites:**

[MAT 053](#) or geometry proficiency; and [MAT 120](#), Intermediate Algebra, or the equivalent with a grade of C or better or an appropriate score on the Oakton Community College Mathematics Assessment Test.

### **III. Course Description:**

This course is an integrated approach developing problem-solving skills and mathematical reasoning capabilities highlighted by historical reference and real world applications. Topics featured include: subsets of the real numbers along with mental, written, and electronic computation using these numeric subsets; number theory; sets; functions and their graphs; probability and statistics. This course will incorporate the use of technology when appropriate.

### **IV. Course Objectives:**

- A.** Become confident in one's ability to do mathematics through reinforcement of the basic elementary mathematics curriculum.
- B.** Gain an understanding and appreciation of the National Council of Teachers of Mathematics (NCTM) curriculum standards.
- C.** Gain an understanding into how students learn through student/teacher collaboration, discussion and diverse examples.

D. Appreciate and understand both the historical developments and the current application and trends of the elementary mathematics curriculum.

E. Become proficient in the use of technologies, i.e., computers and calculators.

## V. Academic Integrity:

Students, Faculty and administration at Oakton Community College are required to demonstrate academic integrity and follow Oakton's Code of Academic Conduct. This code prohibits:

- cheating
- plagiarism (turning in work not written by you or lacking proper citation)
- falsification and fabrication (lying or distorting the truth)
- helping others to cheat
- making unauthorized changes in official documents
- pretending to be someone else or having someone else to pretend to be you
- making/accepting bribes, special favors, or threats, and any other behavior that violates academic integrity

There are serious consequences to violations of the academic integrity policy. Oakton's policies and procedures provide students with a fair hearing if a complaint is made. If you are found to have violated the policy, the minimum penalty is failure on the assignment and a disciplinary record will be established and kept on file in the office of the Vice President for Student Affairs for a period of 3 years.

*Details of the Code of Academic Conduct can be found in the [Student Handbook](#).*

## Outline of Topics:

### A. Problem Solving:

Problem solving procedures and strategies

### B. Sets:

Basic set concepts, operation on sets, and applications of sets.

### C. Real Numbers:

Arithmetic operations (as subsets of the real numbers) and properties of the real numbers

### D. Number Theory:

Tests for divisibility, greatest common factor, least common multiple and numeration systems

### E. Functions:

A variety of special functions, their graphs, and applications

**F. Statistics:**

Statistical graphs, measures of central tendency and variation, and the normal distribution

**G. Probability:**

Probability, simple and complex experiments, odds, conditional probability, expected value, and simulation

**VII. Methods of Instruction:**

Methods of presentation include:

The course is structured with chapter test and Mid Term and Final Exam deadlines to help course participants to remain on schedule and to succeed in the course. It is possible to complete the course early if that is any participant's choice.

On Line (streaming video) Lectures (viewed at student's available time; no appointments)  
Interactive exercise sets and problem solving with guided solutions.

Pencil/Paper Homework (submitted TWO times during the semester, once at the Mid Term Exam and once at the Final Exam).

Chapter Tests may be taken On Line at your PC – or On Campus at any computer.

As registered students of Oakton Community College participants are entitled to FREE on Campus Tutoring at either campus.

On Campus TWO Exams with Photo ID: a Mid Semester Exam and a Final Exam (same format as the Chapter Tests).

**VIII. Course Practices Required:**

Course practices include:

Both - Chapter Tests "A" and "B" must be taken prior to the listed closing date; Chapter Tests may be taken early

Practice Tests, Sample Exercises, Guided Solutions; On Campus FREE Tutors all facilitate student learning

Mid Term Exam - On Campus with Photo ID

Final Exam – On Campus with Photo ID

Pencil/Paper Homework Assignments

**IX. Instructional (REQUIRED) Materials:**

Shrink Wrapped Bundle -- ***must include MML***

A PROBLEM SOLVING APPROACH TO MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS

Authors: Billistein/Libeskind/Lott

Publisher: PEARSON Education (*Addison/Wesley*) 9<sup>th</sup> edition

**X. Methods of Evaluating Student Progress:**

Chapter Tests

(**50%** of the *average* of the Chapter Tests contributes to the Transcript Grade)

Mid Term Exam - On Campus (Photo ID)

(**20%** of the score contributes of the transcript grade),

Final Exam – On Campus (Photo ID)

(**20%** of the score contributes to the Transcript Grade)

Pencil/Paper Homework Assignments (**10 Full Points** for completed homework with critical steps included) contribute to the Transcript Grade

**Any MAKE-UP (*missed*) Tests and Exams are scored one grade lower;**

**an “A” will become a “B”;**

**a “B” will become a “C”**

**and a “C” will become a “D”**

**XI. Other Course Information:**

If you have a documented learning, psychological, or physical disability you may be entitled to reasonable academic accommodations or services.

To request accommodations or services, contact:

**ASSIST Office in Instructional Support Services.**

All students are expected to fulfill essential course requirements. The College will not waive any essential skill or requirement of a course or degree program.

**DROP Deadline for FALL SEMESTER:**

September 21<sup>st</sup> 2009 (course ***dropped*** from record)

October 19<sup>th</sup> 2009 (with ‘**w**’ showing on transcript)

Last work: July14, 2009