



Course Syllabus: Math 164 Spring 2009
Foundations of Arithmetic
12:00 - 12:50PM / MTWRF / SHAW 212

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Office Hours: M 10-11AM, W 10-11AM, R 2-2:50PM
Textbook: A Problem Solving Approach to Mathematics for Elementary
School Teachers, 10th Edition
Authors: Billstein, Libeskink, Lott

Course Description

The purpose of this course is to prepare you to teach early or middle childhood students. The goal is not only to prepare you to explain new mathematical content; Number Theory, Functions, Algebra, Counting, and Probability, but to help you further develop your abilities to speak and write clearly about mathematics. Toward that end, there are two different types of assignments, one more routine for developing competence called Homework and one more complex for developing your ability to write about mathematics called Problem Reports. The problems selected for classwork and assignments are intended to be challenging as a way to help you further develop your ability to learn mathematics. As you begin teaching, you will discover (as we all do) deficiencies in your own understanding that will require learning on your own. A goal of this course is to help you learn how to learn. As an added benefit, your experiences in this course may help you begin to reflect on how people learn mathematics.

Electronic Equipment

Unless otherwise stated, students will not be allowed to operate any type of electronic equipment in class such as cellular phones, calculators, or beepers. Cellular phones will not be used for calculating purposes especially during examinations.

Supplies

Students are responsible their own writing materials such as pencil, colored pens, protractor, compass, highlighter, stapler, glue, ruler and paper (plain, grid, and lined). Maintain your supplies, notes, homework, and examinations organized in a portfolio.

Grading

Everyone is graded the same way. NO EXCEPTIONS. Letter grades A/A-/B+/B/B-/C+/C/C-/D+/D/D-/F are based on a strict 93-100/90-92.9/87-89.9/83-86.9/80-82.9/77-79.9/73-76.9/70-72.9/67-69.9/63-66.9/60-62.9/BELOW 60 cutoff. Grades are not rounded either up or down. The course grade can be calculated at any time using the following proportions:

<i>Homework</i>	→ 20%
<i>Exams</i>	→ 30%
<i>Activities</i>	→ 10%
<i>ProblemReports</i>	→ 20%
<i>Final</i>	→ 20%

Homework:

Homework exercises should be written with attention to details, complete sentences, flow, and pictorial representations for manipulatives should be done neatly and accurately. Transitions from concrete to abstract should be included when applicable. No late homework will be accepted.

Exams:

Exam dates are Friday, April 17, 2009 and Friday, May 15, 2008. Exams are comprehensive and cover all material discussed in class since the previous exam. Completing the exam in the time allotted is part of the exam. Taking an exam is an important part of the course. Nevertheless, scheduling complications sometimes occur. An alternate procedure for taking an exam due to a scheduling complication must be arranged in advance. No make-up exams will be administered.

Activities:

In-class activities will include solving problems using manipulatives, classroom discussion, and practice exercises to reinforce mathematical skills. You are expected to participate in all small and large group work and discussions. For effective participation, you are responsible for bringing the appropriate materials to each class. Reading assignments are designed to provide the explanation and summary of material that is not provided in a traditional lecture format. You are expected to complete all reading assignments.

Problem Reports:

Each problem report will be graded on its own problem-specific rubric. Explanations of what you did, what variables you used, and so forth require clarity as well as mathematical detail. The level of justification required will vary, but you should try to provide as complete an argument as possible that your method of finding the answer(s) works

Final Exam:

The final MUST be taken to pass the course. The final is comprehensive, covers all material discussed in class, and is to be taken at the time scheduled by the University. Completing the final in the time allotted is part of the final. The final exam for Spring 2009 is Tuesday, June 11, 2009 from noon to 2 pm.

Intellectual Competencies:

The following intellectual competencies will be emphasized in this course.

(a) Reading: Competency in reading is the ability to analyze and interpret a variety of printed materials. Students will have the opportunity to develop this skill through reading their mathematics textbook. Instructions for homework exercises, quizzes, and major exams call for a high level of reading and preparation.

(b) Critical Thinking: Critical thinking skills include problem solving, connecting mathematical concepts to real world applications or other mathematical concepts, identifying and describing patterns, and extending concepts to new situations. You will have the opportunity to develop these skills through classroom discourse, homework exercises and other activities. You will have the opportunity to demonstrate your ability to think critically by answering questions that focus on conceptual knowledge.

(c) Writing: Competency in writing is the ability to produce clear, correct, coherent prose adapted to purpose, occasion, and audience. You will have the opportunity to practice these skills by answering questions that focus on conceptual knowledge. Written assignments may include writing brief explanations on how to solve specific problems or compare and contrast ideas.

(d) Use of Technology: Computer literacy means the ability to use computer-based technology in communicating, solving problems, and acquiring information. Students will have the opportunity to develop these skills while engaging in activities involving computerized concept tutorials.

Note:

You may use the internet as an additional resource, HOWEVER, any use of examples or text taken from any internet website must be cited as with any other outside materials. This course involves a lot of group work, HOWEVER, all written work must be completed individually. Though group members might have a common point of view on a problem, each member's report must reflect that individual's unique understanding.

Academic Integrity

Cheating, plagiarism, and copying material that is copyrighted will not be tolerated. Disciplinary action will be taken for any of these wrong doings.

Special Needs Statement

As soon as possible, students with disabilities who wish to set up academic adjustments in this class should provide a copy of their "Confirmation of Eligibility for Academic Adjustments". Eligible students without this form should contact the Disability Support Services Office by visiting Bouillon 205, emailing dssrecept@cwu.edu, or calling the phone number 509-963-2171.