

EDU 332: Curriculum, Assessment, and Learning Experiences in Mathematics, K – 6
Fall 2009; Curtis Hall 112

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Materials:

- Van De Walle, J.A. (2007). Elementary and Middle School Mathematics – Teaching Developmentally (6th Edition). Boston, MA: Pearson.
- Calculator
- Copy of PA State Mathematic Standards

Course Description:

This course focuses on the methods, materials, and content necessary for teaching (K – 6) Mathematics. One purpose is to acquaint pre-service teachers with the Pennsylvania Department of Education (PDE) Math standards and the National Council of Teachers of Mathematics (NCTM) standards. The second purpose is to provide the math content, methodology, and pedagogy necessary for the pre-service teachers to become confident in their ability to provide these services to their students. This course will present a range of developmental activities, which will prepare the pre-service teacher to work effectively in a contemporary classroom, and to help children construct mathematical knowledge.

Course Objectives:

- Students will examine contemporary learning theories and innovative techniques of teaching and learning (K – 6) Mathematics.
- Students will become familiar with PDE and NCTM mathematic standards.
- Students will learn the critical components that help to create a successful learning environment in (K – 6) Mathematics.
- Students will overcome challenges of teaching mathematics, reflect upon, and grow from their own experiences of learning and teaching mathematics.
- Students will understand the importance of the integration of literature and mathematics.

The student will exhibit learning by:

- developing hands-on and developmentally appropriate lessons.
- planning and presenting a hands-on developmentally appropriate lesson.
- creating an activity notebook that contains ideas that can be implemented in the elementary classroom.
- participate in class discussion and personal reflections about their learning process.
- integrate Mathematics with literature activities.

Honor Code and Academic Standards of Integrity:

Cedar Crest College students should uphold community standards for academic and social behavior in order to preserve a learning environment dedicated to personal and academic excellence. Upholding community standards is a matter of personal integrity and honor. Individuals who accept the honor of membership in the Cedar Crest College community pledge to accept responsibility for their actions in all academic and social situations and the effect their actions may have on other members of the College community.

All Cedar Crest students shall:

- Submit only work that is their own.
- Adhere to the rules of acknowledging outside sources, as defined by the instructor, never plagiarizing or misrepresenting intellectual property.
- Follow the instructions of the professor in any academic situation or environment, preparation of papers, and the proper and respectful use and sharing of College facilities and resources, including library and computing resources.
- Abide by the Cedar Crest Computer Use Policy.
- Students are prohibited from submitting the same work for more than one course without instructor approval.

Appropriate classroom behavior is implicit in the Cedar Crest College Honor Code. Such behavior is defined and guided by complete protection for the rights of all students and faculty to a courteous, respectful classroom environment. That environment is free from distractions such as late arrivals, early departures, inappropriate conversations, and any other behaviors that might disrupt instruction and/or compromise students' access to their Cedar Crest College education.

Attendance:

Students are required to attend class, as the course will rely heavily on discussion and group activities that cannot be replicated individually. Students are allowed one absence during the semester, but are required to make up any work missed due to that absence. Except in the case of an extenuating circumstance approved by the instructor, students are required to submit all assignments on time, regardless of whether the student is present in class.

Assignments and Grading:

Assignments are listed on the syllabus; these assignments may be amended by the instructor with at least a week's prior notice to the students. All assignments are due on the date listed on the syllabus. Assignments may be submitted either electronically or on hard copy. Any assignment that is not submitted by the due date will receive a grade of zero unless the student received prior approval for an extension from the instructor.

In this course, there will be no tests and quizzes. Assignments are designed to enhance students' abilities to reflect on the material presented and apply it to their own experiences. The types of assignments and weighting of them is as follows:

Math Activities Notebook: 200 points

You will compile a list of activities for each topic studied:

- I. Basic Number Sense
- II. Addition/ Subtraction
- III. Multiplication
- IV. Division
- V. Algebraic Thinking
- VI. Fractions
- VII. Decimals and Percents
- VIII. Measurement
- IX. Geometry
- X. Data Analysis and Probability

This notebook will be a valuable resource for you as you enter your teaching career. Please follow the above Table of Contents. ***Any ideas that are not original should be referenced appropriately.***

Math Lesson Plans: 200 points (4 lessons; 50 points for each lesson)

Create 4 developmentally appropriate lessons that meet the PA State standards. The lessons should follow CCC format. The lessons will be for grades 1, 3, 5, and the last lesson will be your choice. One lesson must include a literature activity and one must include an open ended response activity. All lessons should engage the learner beyond lecture and practice problems. The learner should be active throughout the lesson. No review or test lessons will be accepted. Lessons should be activity based and creative.

Lesson Presentation: 100 points

You will present one of your lessons to the group. The lesson should be planned for a 15 minute mini lesson. You will be scored on a rubric by the professor and your peers will provide feedback.

Class participation: 70 points

Because the course is highly dependent on class discussion and participation in activities, students will receive five points for class participation each week. Class participation points are earned by attending class and actively engaging in discussion and group activities. Students will not lose class participation points for the first absence, but will lose points for each subsequent absence.

Final grades are determined by totaling the number of points earned by the student and computing an average based on the total possible number of points (570). Letter grades are awarded as follows:

A	94 – 100%	C	74 – 76%
A-	90 – 93%	C-	70 – 73%
B+	87 – 89%	D+	67 – 69%
B	84 – 86%	D	63 – 66%
B-	80 – 83%	D-	60 – 62%
C+	77 – 79%	F	59% or lower

Course Schedule: Fall 2009

Date	Topic(s)	Chapters to Read (read prior to class date)	Assignments Due
8/25/09	NCTM & PDE Math Standards Knowing and Doing Mathematics	1 & 2 (<i>in class</i>)	
9/1/09	Problem Solving & Problem Based Classrooms	3 & 4	
9/8/09	Assessment, Teaching math to ALL students & Technology	5, 6 & 7	10 activities due (I & II)
9/15/09	Early Number Sense & Operations	8 & 9	Lesson 1 due: GRADE 1
9/22/09	Basic Facts & Place Value	10 & 11	
9/29/09	Computation & Estimation	12 & 13	10 activities due (III & IV)
10/6/09	Literature in math & Algebra	14	Lesson 2 due: GRADE 3
10/13/09	No Class: Fall Break		
10/20/09	Fractions	15 & 16	10 activities due (V & VI)
10/27/09	Decimals, Percents & Proportional Reasoning	17 & 18	Lesson 3 due: GRADE 5
11/3/09	Measurement & Geometry	19 & 20	10 activities due: (VII & VIII)
11/10/09	Data Analysis & Probability	21 & 22	Lesson 4 due: YOUR CHOICE OF GRADE LEVEL
11/17/09	Lesson Presentations		10 activities due: (IX & X)
11/24/09	Lesson Presentations		
12/1/09	Lesson Presentations		