

My Though for this Course:

• Based on projects / discussions / presentations

• Evaluation based on alternative assessments
  
  1. Portfolio (notebook) - containing mathematical writings, resource materials, in-class, and out-of-class work, project write-ups, etc.

  2. Project(s) (1 major - a full term emphasis, or 2 minor - half term projects focusing mainly on presentation topics). The project can also be contained in the Portfolio.

  3. Class presentation(s) of topics and project(s).

  4. Assessment by instructor, possibly peer, and self.

  5. No traditional pencil-and-paper testing

• Class time devoted to discussion, presentations, group work, but not lecture.
  
  1. First part of class devoted to discussion of common assignment and readings. All participate.

  2. Second part of class devoted to one individual report, individual presentation, and/or a student activity for us to do in class.

  3. Each student is responsible for the content of the second part of class, once every other week (i.e. three times during the course). These materials which can be associated with your project(s), will also count toward your course grade, and can be kept in your portfolio.
Note: Keeping in alignment with Colorado’s Licensure areas we will define the “Elementary level” as ages 6-12 (Middle Childhood Education). Other licensure endorsement areas are: Early Childhood education (ages 0 - 8), Mathematics Education early adolescence (ages 11 - 15), and Mathematics Education young adults (ages 14 - 18+)

Major reading areas for first part of class:

1. Standards-Based School Mathematics Curriculum: What are They? What do Students Learn?
2. Research Ideas for the Classroom: Early Childhood Mathematics, and
3. Research Ideas for the Classroom: Middle Grades Mathematics

Areas for second part of each class: research, manipulatives, technology (Internet resources, computer software, calculator use), assessment items (such as CSAP, NAEP, and the National Survey of Mathematics Education online at 2000survey.horizon-research.com), etc.

Reference Materials (mainly for second part of class and assessable on loan from instructor)

1. NCTM’s Principles and Standards for School Mathematics (2000)
2. NCTM’s Assessment Standards (1995) and Professional Teaching Standards (1991)
4. NCTM’s Number Sense and Operations: Grades K-8 (1993)
5. NCTM’s Developing Number Sense: Grades 5-8 (1991)
6. Assessing Higher Order Thinking in Mathematics (1990)
7. The Teaching and Assessing of Mathematical Problem Solving
8. Sourcebook: Lessons to Illustrate the NCTM Standards (Online)
11. Learning About Teaching – it includes a CD (1996)


15. Implementing the K-8 Curriculum and Evaluation Standards (1993)


17. Shape Maker with the Geometer’s Sketchpad: Grades 5-9 (1998)


20. Theories of Mathematical Learning (1996)


27. Young Children Continue to Reinvent Arithmetic: 3rd Grade (1994)

28. Communication in Mathematics, K-12 and Beyond: 1996 Yearbook

29. Developing Mathematical reasoning in grades K-12: 1999 Yearbook


31. Results from the Seventh Mathematics Assessment of the National Assessment of Education Progress
REFERENCES


