Orientation Seminar, Math 299E
2 credits, Fall 2007

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Meeting Time: 2:00 – 2:50, Tues. & Thur.

Meeting Place: Bouillon Hall, Room 103
Office Hours: M-Th 12:00–1:30, or by appointment

Students With Disabilities

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible, so we can discuss how the approved adjustments will be implemented in this class. Students who need this form should contact the Disability Support Services Office in Bouillon 205 at dssrecept@cwu.edu or call 963-2171.

Texts

(1) handouts and Internet sites;
(2) *Principles and Standards for School Mathematics* by the National Council of Teachers of Mathematics (NCTM). It is available online at www.nctm.org . (You can get a trial membership for free (90–day).);
(3) Live Text: You will need to purchase this for your own use.

Supplies

calculator (should be a graphing calculator, such as a TI83), several colored portfolios (folders), 3–ring binder with dividers for handouts

Course Description

This course is designed to introduce pre-service secondary teachers to the mathematics education program. Students will experience the basic processes of this program: problem solving/modeling, writing, teaching, and use of technology. These processes will be integrated with mathematical content. In this course, students will begin construction of a mathematics education electronic portfolio. The electronic portfolio will be completed in Math 499E at which point students will have to meet all the program, NCATE, NCTM, and Washington State Standards for secondary mathematics teachers.

Course Rationale

To meet the expectations for mathematics education for secondary teachers a shift in content, instructional practices, and assessment practices is crucial. The *Professional Standards for Teaching Mathematics* (NCTM, 1991) states that

To reach the goal of developing mathematical power for all students requires the creation of a curriculum and an environment, in which teaching and learning are to occur, that are very different from much of current practice. The image of mathematics teaching needed includes elementary and secondary teachers who are more proficient in

- selecting mathematical tasks to engage students' interest and intellect;
- providing opportunities to deepen their understanding of the mathematics being studied and its applications;
- orchestrating classroom discourse in ways that promote the investigation and growth of mathematical ideas;
- using, and helping students use, technology and other tools to pursue mathematical investigations;
- seeking, and helping students seek, connections to previous and developing knowledge;
- guiding individual, small–group, and whole–class work.

Learner Outcomes: Students will use an electronic portfolio, a lesson presentation, and mathematics activities to demonstrate the following learner outcomes.

Learner Outcome	Assessment
Initiate Mathematics Education Proficiency Portfolios (MEPP)	Students will present electronic portfolios using solutions to problems in Math 299e as primary portfolio entries.
Solve problems using a variety of strategies	Students will present solutions to problems using electronic tools such as web-based technology, mathematical software, presentation software, word-processing software for mathematics, and calculator-based technology.
Communicate Mathematical Understanding	Students will explain concepts and procedures using electronic tools such as web-based technology, mathematical software, presentation software, word-processing software for mathematics, and calculator-based technology.
Use Mathematical Reasoning	Students will explain the logic of their mathematical conclusions using electronic tools such as web-based technology, mathematical software, presentation software, word-processing software for mathematics, and calculator-based technology.
Make Connections	Students will explain the connections between mathematical concepts and between real–world situations and mathematics using electronic tools such as web-based technology, mathematical software, presentation software, word-processing software for mathematics, and calculator-based technology.
Use Mathematical Representations	Students will explain mathematical ideas using multiple representations and electronic tools such as web-based technology, mathematical software, presentation software, word-processing software for mathematics, and calculator-based technology.
Demonstrate various presentation and calculation technologies, including calculators, mathematical software, presentation software, and technical word-processing software	Students will present electronic portfolios, using solutions to problems as primary portfolio entries. Students will prepare and deliver a lesson using technology, discovery methods, and/or hands–on materials.
Demonstrate oral and written proficiency in technical presentations of mathematical material	Students will prepare and deliver oral presentations to demonstrate competencies in the areas of problem solving, reasoning, connections, and representation. Students will write complete solutions and explanations for open–ended problems, relating the solutions to the NCTM Standards.

Work and Assessment: Please remember that organization, neatness, legibility, and excellent writing count! Also remember, AND THIS IS EXTREMELY IMPORTANT, if you use ANY ONE'S WORK OTHER THAN YOUR OWN, YOU MUST DOCUMENT IT! This is especially the case when finding "hints" on the web!

Lesson Plans

You will write five lesson plans, as described by one of the *Classroom Scenarios*. Your lesson plans can be of any recognized form, but each plan must have (1) Standards; (2) Objectives; (3) Recall (Preparatory Set); (4) Procedure; (5) Closure (6) Assessment; (7) Materials; (8) Post Lesson Comments. Each of the first seven sections should be timed, based on a 50 minute period. Each lesson plan should incorporate as many of the NCTM process standards as is practical. Each lesson will be posted as one or more artifacts in LiveText.

Presentations

You will teach your Math 299E class, using your lesson plan. You may walk quickly through some parts of the plan, because your fellow students are much better prepared than will be your future high school students. However, you MUST demonstrate an activity that MAKES CONNECTIONS! You will be graded by your peers on your presentations!

Reflections

For each of the six LiveText Standards for Math 299E, you will post a well-written reflection on the accompanying Lesson Plan you have chosen to support your knowledge of that Standard. This artifact MUST allude to the Indicators for that Standard.

93-100% A	90-92% A-	87-89% B+	83-86% B	80-82% B-	77-79% C+	73-76% C	70-72% C-	67-69% D+	63-66% D	60-62% D-	<60% F

Attendance and Professionalism

If you are to fully benefit from this class, you must attend class. As you prepare to become a teacher, you need to become accustomed to setting a good example for students. Attendance demonstrates professionalism and dedication. High quality work and organization demonstrate professionalism, as well. In addition, work must be turned in on time to receive full credit. The instructor reserves the right to make final decisions on any extraordinary circumstances that may interfere with your ability to turn your work in on time. Finally, you will not receive a grade, if your LiveText portfolio is incomplete at the closing of the quarter.