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Course Description: Prospective teachers will learn and use the methods and materials needed to teach mathematics to secondary school students with emphasis on standards-based curricula, problem solving, teaching for understanding, equity, and research-based practices.

Prerequisites: MATH 260, concurrent enrollment in both EDCS 311 and MATH 355, or permission of instructor.

Required Materials: Handouts from the instructor on research & best practice, access to Blackboard, LiveText & Washington State Academic Learning Requirements  
<http://www.k12.wa.us/CurriculumInstruct/default.aspx>

#### COURSE DESCRIPTION:

Prospective teachers will learn and use the methods and materials needed to help students learn mathematics with emphasis on standards-based curricula, problem solving, teaching for understanding, equity, and research-based practices.

#### COURSE RATIONALE:

*Curriculum and Evaluation Standards for School Mathematics* (NCTM, 2000) outlines specific changes needed in pre-service mathematics education. To meet the expectations of national stakeholders, pre-service candidates must develop knowledge, skills, and dispositions that enable the best K-12 teaching and learning possible. In particular, effective learning will take place when students (a) preconceptions are engaged, do activities consistent with professionals in the field, and (c) are aware of how (and what) they learn. Research indicates that the best learning is based on discovery via inquiry and collaborative problem solving in balance with direct instruction. Therefore, your training as future professional educators will emphasize these elements.

#### LEARNER OUTCOMES AND ASSESSMENT:

By the end of the course, students will:

OUTCOME	ASSESSMENT	STANDARD
be able to explain the essence of good mathematics teaching and how students learn mathematics	Statement of Teaching Philosophy, journaling and LiveText portfolio	NCTM 1-16

OUTCOME	ASSESSMENT	STANDARD
be able to demonstrate each of the following dispositions to teaching mathematics: attention to equity, use of a stimulating curriculum, effective teaching, learning with understanding, and use of multiple assessments.	Journaling and LiveText Portfolio	NCTM 7
be able to effectively use the following teaching practices to impact student learning: differentiated instruction, manipulatives, multiple strategies for instruction and assessment, align curriculum with state standards.	Four lesson plans, unit plan, field observation and LiveText portfolio.	NCTM 8
be able to explain how they will use and participated in the professional community of mathematics teachers to improve professionally.	Lesson plans, unit plan, field observation and LiveText portfolio.	NCTM 8.5
be able to apply appropriate technology and resources to promote problem solving and effective learning.	Lesson plans, unit plan, field observation and LiveText portfolio	NCTM 8.9
be able to use problem solving in lessons to promote sufficient rigor and interest to improve student engagement, motivation, and cognitive demand.	Lesson plans, unit plan, field observation and LiveText portfolio	NCTM 8.8
be able to interact with a classroom teacher to develop skills in teaching secondary mathematics	Field observation and LiveText portfolio	NCTM 16

#### ASSESSMENT AND EVALUATION GUIDELINES:

The course's instructional and assessment strategies are designed to inform the students of their progress in achieving these performance outcomes. The electronic portfolio, journals, lesson plans, teaching experiences, and reflection on teaching experiences give multiple assessments of achievement in meeting the performance outcomes.

ASSIGNMENT	POINTS
Lesson Plans	100
Learning Segment (Unit Plan)	100
Dispositions to Teaching Mathematics Blogs	60
Field Observation Journal	10
Teaching Philosophy Journal	10
Teaching Philosophy Paper	25
Reflection on Teaching Experience	10
Class assignments & presentations	40ish
Final Portfolio	100
Professionalism	20

#### LESSON PLANS:

The 4 individual lesson plans that comprise your ‘Teaching Learning Segment’ may each be re-submitted once within one week of the date the graded paper is returned to you. However, each lesson plan must be done correctly to pass the course. These will become artifacts in the LiveText portfolio, and will be the core of your final unit. There is a 10% penalty for each day these papers are late. (25 points each)

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#### LEARNING SEGMENT/UNIT PLAN:

Your 4 lesson plans must be tied together in a coherent unit, culminating in a final assessment. Details on this ‘Learning Segment’ will be provided on a separate handout. (100 points)

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#### DISPOSITION TO TEACHING MATHEMATICS BLOGS:

We will be discussing 6 dispositions to teaching mathematics: Attention to Equity, Effective Teaching, Commitment to Learning with Understanding, Use of Stimulating Curricula, Use of Various Assessments, and Use of Technology. These are 6 of the 14 standards you will reflect upon in your final LiveText portfolio. You will create blog entries on these 6 dispositions throughout the term in which you expound on ideas and materials presented in class. At the end of the term you will distill the ideas in these blogs into the reflection paragraphs in your final portfolio. (10 points each)

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#### FIELD OBSERVATION JOURNAL:

You are required to observe in a secondary mathematics classroom for one hour a week. Record your observations in this journal, relating what you see with what we’ve discussed in class. (10 points)

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#### TEACHING PHILOSOPHY JOURNAL & PAPER:

Absorption of the topics in the course will have an inevitable effect on your teaching philosophy. You will record the evolution of your ideas in your Teaching Philosophy Journal on Blackboard. The ideas developed in your journal will culminate in the production of your Teaching Philosophy paper, which will be posted to LiveText. Formal details of these assignments will be outlined in a separate handout. The journal is worth 10 points, and the paper is worth 25 points.

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#### REFLECTION ON TEACHING EXPERIENCES:

You will teach one lesson to your peers. A self-assessment needs to be written reflecting on your performance using the format provided by the instructor. This self-assessment will be an artifact in your final course portfolio. The self-assessment is due the next class period after you’ve taught a lesson. (10 points)

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#### CLASS ASSIGNMENTS & PRESENTATIONS:

Throughout the course you will be expected to give short presentations and/or turn in short assignments not explicitly described on this syllabus. These will be worth roughly 40 points.

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#### FINAL PORTFOLIO:

The final assessment for the course is a LiveText portfolio containing your learning segment, your teaching philosophy paper, and assessments of your teaching (self-reflections, instructor & peer assessments), worth 100 points.

Create a persuasive reflective paragraph aligned with each of the 14 standards (listed above under “Learner Outcomes”) demonstrating that you have mastered each standard. As the artifacts in the portfolio will have been separately assessed, the portfolio grade hinges on completeness and the quality of your reflection paragraphs. The portfolio is due on Friday, March 16th at **noon**.

Recall that a reflection paragraph is your chance to step back and analyze how each standard fits into your personal philosophy of teaching mathematics. (100 points)

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#### PROFESSIONALISM:

Professionalism in teaching is marked by always treating people with respect, being on time, and being prepared. Therefore, you must come to class on time and prepared. Also when visiting/observing in the public schools you must treat the students and other teachers with respect, act & dress professionally, be on time, and be well prepared. It is very important to be at your school at least 10 minutes before your scheduled class (remember you must check in at the office when entering the school). A lack of professionalism will have a negative effect on your course grade.

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#### HOW TO SUCCEED IN THIS COURSE:

Take the responsibility for your own achievement of the performance objectives. Use the activities, assignments, assessments and people such as the instructor or other students in the course to ensure that you understand the mathematical teaching concepts and can demonstrate this understanding in the format required by the performance objectives.

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#### DISABILITY SERVICES:

Students with disabilities may arrange for academic adjustments by providing the professor with a copy of the “Confirmation of Eligibility for Academic Adjustments” from the Disability Support Services Office as soon as possible. To obtain this form contact Bree Callahan, director of Disability Support Services for the Westside University Centers at (206) 439-3800 ext. 3866 or by email at bcallaha@cwu.edu.

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#### HONOR, RESPECT, AND ACADEMIC HONESTY:

Each of us should consider our placement at this institution to be a privilege. We need to have respect for one another, and for ourselves. In light of these facts, cheating in any form will not be tolerated. You are encouraged to discuss the concepts and topics in this course when writing your papers, however, your writing should reflect your own ideas and synthesis of the course material. The word “plagiarize” is defined by Merriam-Webster as “to steal and pass off (the ideas or words of another) as one’s own: use (another’s production) without crediting the source.” This is a very serious offense, and jeopardizes your position in the program.