
Instructor: Dr. Chris Black
Office: Snoqualmie Hall #302B
Office Hours: M 2:30 - 3:30, Th 9:30 - 10:25, and by arrangement
Office Phone: x3871
Email : blackc@cwu.edu

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

Required Text: *Teaching Mathematics in Secondary and Middle School*, Cangelosi; and handouts from the instructor.

Required Materials: Online access to Blackboard and LiveText.

COURSE DESCRIPTION:

Prospective teachers will learn and use the methods and materials needed to help students learn mathematics with emphasis on the use of manipulatives, problem solving, cooperative learning, and communication.

COURSE RATIONALE:

To meet the expectations for mathematics education, a shift in content, instruction and assessment practices is crucial. The Principles and Standards for School Mathematics (NCTM, 2000) outlines the specific changes needed in pre-service mathematics education: "Prospective teachers must be taught in a manner similar to how they are to teach by exploring, conjecturing, communicating, reasoning, and so forth." In addition, "all teachers need an understanding of both the historical development and current application of mathematics. Furthermore, they should be familiar with the power of technology." This course employs the constructivist model of learning in which students, in interactions with their physical and social environments, create knowledge.

Part of our mission is to accommodate for differences among students in order to help all students learn to high levels. Excellent assessment practices are stressed; all assessment and instructional activity are integrated and used to promote better communication between the teachers and the students. Students create academic units, and engage in peer teaching. Part of the lesson plan includes an explanation of the assessment practices. After the lesson is taught student get constructive feedback through peer, self, and instructors comments. Students are introduced to and encouraged to become involved in the professional community of mathematics educators. This is done by becoming familiar with and encouraged to join state and national professional organization such as NCTM and WSMC.

LEARNER OUTCOMES:

Candidates will demonstrate that they support a positive disposition toward mathematical processes and mathematical learning in the areas of:

- Attention to equity
- Use of stimulating curricula
- Effective teaching
- Commitment to learning with understanding
- Use of various assessments

Candidates will demonstrate that they possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning. The candidate will demonstrate that s/he...

- selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages.
- selects and uses appropriate concrete materials to enhance the learning of mathematics.
- uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students' mathematical knowledge.
- plans lessons, units, and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates.
- participates in professional mathematics organizations and uses their print and online resources.
- demonstrates knowledge of research results in the teaching and learning of mathematics.
- uses knowledge of different types of instructional strategies in planning mathematics lessons.
- demonstrates the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations.
- develops lessons that use technology's potential for building understanding of mathematical concepts and developing important ideas.

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). If your instructor feels you have not acted professionally, you will get one verbal warning; the next infraction will result in being dropped from the course.

ASSESSMENT AND EVALUATION GUIDELINES:

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

DISPOSITION PAPERS:

Five disposition papers will be assigned related to the five disposition standards. These papers will be written responses to questions related to class discussion, handouts, observation experiences, research articles, and internet sites, and should be 3-4 pages in length. Remember to cite your sources to support your conclusions. These papers may be resubmitted one time (within one week of the date the graded paper is returned to you) if either the student or the instructor deems them incomplete; the revised papers will be used in the LiveText portfolio. There is a 10% penalty for each day these papers are late. (25 points each)

LESSON PLANS:

The 5 individual lesson plans that comprise your EDCS 311 unit may each be resubmitted 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 in EDCS 311. There is a 10% penalty for each day these papers are late. (20 points each)

REFLECTION ON TEACHING EXPERIENCES:

Two lessons will be taught to peers and one at your school. A self-assessment needs to be written reflecting on your performance each time you teach, using the format provided by the instructor. These self-assessments will be artifacts in your final course portfolio. The self-assessment is due the next class period after you've taught a lesson. (10 points each)

PEER ASSESSMENT:

On two occasions, you will assess the teaching of your peers, using the format provided by the instructor. Copies of these assessments will be given to both your colleague and to me. Reviews of your teaching become part of your final course portfolio. (5 points each)

PORTFOLIO:

The final assessment for the course is a LiveText portfolio containing all lesson plans, disposition papers 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)

GRADING:

Disposition Papers:	125 points
Lesson Plans:	100 points
Peer Assessments (2):	5 points each
Self-Assessments (3):	10 points each
Portfolio:	100 points

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.

DISABILITY SERVICES:

Students with disabilities may arrange for academic adjustments by providing the instructor 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 the Disability Support Services Office at the main campus at dssrecept@cwu.edu or (509) 963-2171.

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.