



MED200: Foundations of Teaching Mathematics 7-12 and Field Experience

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Course Description:

Current policies and practices in the field of mathematics education including content and pedagogy, national and state standards, and psychological, social, cultural and gender factors that affect the teaching and learning of mathematics. Field experiences in secondary mathematics classrooms that feature racial and ethnic diversity, diversity in SES, and include students with diverse mathematical abilities as well as those identified as having special needs.

Relationship to Teacher Education Conceptual Framework:

The preparation of *reflective facilitators of learning* at Buffalo State College is anchored in a foundation of professional knowledge-knowledge of the *learner* (i.e., students in the schools) and their characteristics, knowledge of content to be taught, and knowledge of pedagogy. Course objectives for MED 200 address all three components of the conceptual model:

•Knowledge of the learner in the application of developmentally appropriate practices to adolescent education and in dealing with management problems in the classroom.

•Knowledge of content as teacher candidates become familiar with the New York State Common Core Learning Standards.

•Knowledge of pedagogy as teacher candidates acquire strategies for developing student understanding through active engagement, utilize summative and formative assessment techniques, and enhance instruction through a variety of technological means.

The required field experience component provides first-hand experiences related to the varied characteristics of *learners*, the *content* or the knowledge, understandings, skills, and dispositions that are to be developed, and the *pedagogy*, or the understanding of how particular topics, problems, or issues are presented to learners with diverse backgrounds, interests and abilities. In addition, the field and classroom experiences will foster discussions that focus on the following aspects of the Conceptual Model:

Technology

The teacher education candidate demonstrates knowledge of use technology in the classroom as a vehicle for learners to acquire knowledge, practice skills, and use higher order thinking skills.

Reflective Learner

The teacher education candidate demonstrates the ability to reflect and assess one's own effectiveness, and to systematically make adjustments to improve and strengthen areas needing attention.

Diversity

The teacher education candidate demonstrates the ability to be aware of and sensitive to issues of diversity and to use culturally and socially responsive pedagogy.

Dispositions

The teacher education candidate demonstrates respect for learner differences, commitment to their own personal growth, and engagement in short and long-term planning.

Course Outcomes:

Upon successful completion of the course students will:

1. demonstrate knowledge of the state and national standards and identify standards for mathematical practice in observed lessons;

2. demonstrate reflective practice through analysis of classroom events in light of high-level teaching practices;

3. synthesize methodologies discussed in class with observation in the field;

4. present mathematical content reflective of the understanding on of the role of prior knowledge, and of concrete, pictorial, abstract representations in constructing student understanding;

5. describe students' difficulties in understanding specific mathematical concepts and propose potential issues underlying the problem and paths to remedy the situation;

6. demonstrate professional behavior in the classroom in terms of preparation and timeliness, communication with students and other professionals, and interest in the field of mathematics education;

7. demonstrate growth of knowledge based on experiences with students that come from backgrounds featuring diversity, varying SES, and learners with special needs (IEP, 504's, etc.);

8. communicate mathematical ideas and conclusions for secondary content with clarity and precision.

Materials and Expenditures:

Calculator: a TI-84 or NSpire is required, USB Storage device

<u>Attendance</u>: You are expected to attend every class. The activities, materials, readings, and discussions that will be the focus of each class provide a foundation for reflective writing and professional growth. Since this is a preparatory course for your professional practice experience, it is expected that you will respond professionally, and strive for unblemished attendance. Less than perfect attendance may affect your grade as described below. In the event of an absence you should contact a classmate to discuss the material covered prior to contacting the instructor.

Grading Policy: Final grades will be calculated based upon the following criteria:

Assignments	40%
Field Experience Evaluation	*
Exams	30%
Quizzes	10%
Journal	10%
Group Process / Class Participation	10%
• •	100%

*Your mentor teachers will complete an evaluation of your experience in their classrooms. Both of the evaluations may contain no more than 3 ratings of "unacceptable" across the 22 items or a grade of I will be awarded and another field experience component must be completed. Any ratings of "unacceptable" in the Professional Dispositions portion of the evaluation will be noted in your file and will need to be remedied in future field experience settings. (see attached Early Field Experience evaluation)

Final Grading System:

		B+:	87 - 89	C+	77 - 79	D+:	67 - 69
A:	95 - 100	B:	83 - 86	C:	73 - 76	D:	60 - 66
A-:	90 - 94	B-:	80 - 82	C-:	70 - 72	E : F	Below 60

<u>Assignments</u>: Assignments will be an integral part of your learning experience in this course. Assignments will be posted on the course homepage at math.buffalostate.edu/~wilsondc/ I do not have a Blackboard site. You are encouraged to work with your classmates on the assigned problems and tsaks, however you must each complete your own individual write-up. (see NOTE under Academic Integrity) Assignments that involve mathematics problems need to have complete work and may include diagrams, charts, a paragraph, or any other format that conveys what you did and how you did it. *All written assignments should be double-spaced and in a 12-point font*.

Late Submissions: Unless otherwise stated, assignments are to be submitted at the start of following class after being assigned. If you have a problem submitting an assignment on time, discuss it with me as soon as possible. Any work that is not submitted on time will suffer a reduction in grade that will vary according to the degree of tardiness. I will not be able to accept an assignment more than 2 class days late. In the event of a class absence, assignments should be faxed or e-mailed on the due date to avoid a reduction in grade.

Grading Assigned Work: Collected work will be assessed based upon the general 4-point rubric described below. Weights may vary with the expectations of the assignment. The 4-point system is similar to the 4 point GPA system.

Scoring Rubric:

4: Contains a complete response with clear, coherent, unambiguous explanation. Demonstrates a thorough understanding of the generalizations, concepts and facts specific to the task or situation and provides insight into some aspect of this information. Where appropriate:

Demonstrates self-assessment, personal growth and challenge.

Demonstrates understanding of the question's mathematical purpose and ideas.

Includes examples and/or counterexamples and/or a clear and simple diagram.

Pedagogical implications are discussed.

Spelling, grammar, format, or organization of the work does not detract from the reading and understanding.

3: Contains a good response with some of the characteristics above, but not all. Displays knowledge of the generalizations, concepts and facts specific to the task or situation. Where appropriate:

Some evidence of self-assessment and personal growth is present. Explanation complete but may raise questions regarding the understanding of the question's mathematical purpose and ideas.

Pedagogical implications are discussed.

Spelling, grammar, format, or organization of the work detracts very little from the reading and understanding.

2: Contains an incomplete response and/or displays incomplete knowledge of the generalizations, concepts and facts specific to the task or situation and/or has notable misconceptions. Where expected:

Little or no evidence of self assessment and/or personal growth.

Explanation is incomplete and raises questions regarding the understanding of the question's mathematical purpose and ideas.

Pedagogical implications are not discussed.

Spelling, grammar, format, or organization of the work detracts from the reading and understanding.

1: Omits significant parts of the question and response and/or demonstrates misconceptions about the generalizations, concepts and facts specific to the task or situation. Where expected:

Displays no evidence of self-assessment and/or personal growth.

Contains major mathematical errors and/or use of inappropriate strategies. Spelling, grammar, format, or organization of the work detracts a great deal from the reading and understanding.

0: No submission or submission is of such low quality that no credit may be awarded

Writing:

This course is an education course and thus will require extensive writing. One of the goals in this course is to improve the quality of your writing so you may communicate at a professional level within educational environments. The rubric below will be used to evaluate your written work and may supplement the above rubric when appropriate. All written work should be completed using a word processor, with a 12-point font, 1-inch margins, and double spacing. Documents emailed to me should be *named with your last name and reference to the assignment number*. I can open MS Word documents or rich text files. Please use these formats only when submitting work.

Written Assignment Rubric: (adapted from SUNY guidelines)

4: Writer presents an easily identifiable, focused, original, and thought provoking controlling purpose or thesis. The paper moves coherently, logically, and even creatively from an engaging introduction to a well-demonstrated conclusion. Paragraphs fit within this structure coherently and present pertinent examples and evidence to support central and subsidiary ideas. Sentence structure displays sophistication and variety; transitions add to the logical development of the topic. The essay exhibits a solid command of word variety and a tone and diction appropriate for the subject and its implied audience. Mechanics (grammar, punctuation, spelling and documentation, if needed) are nearly flawless.

3: Writer presents an identifiable and focused controlling purpose or thesis. The paper moves coherently and logically from a satisfying introduction to a solid conclusion. Paragraphs fit within this structure and present examples and evidence to support the ideas presented. For the most part, sentences are well constructed and transitions are sound—though the sequence of ideas may occasionally be awkward. The essay exhibits some degree of control over the tone and diction appropriate for the subject and its implied audience. Mechanics (grammar, punctuation, spelling and documentation, if needed) are mostly accurate.

2: Writer presents a wandering, vague, or unfocused controlling purpose or thesis. The paper moves awkwardly from a weak introduction to a conclusion that does not adequately represent the body of the paper. Basic paragraphing exists, but often fails to support or even recognize a central idea, and the use of evidence and examples is inadequate. Sentence and paragraph transitions are often unclear, awkward, indirect, and/or illogical. Tone and diction are often inconsistent and/or inappropriate for the subject and its implied audience. Mechanics (grammar, punctuation, spelling and documentation, if needed) are not well executed and may, at times, obscure meaning.

1: Writer fails to present a controlling purpose or thesis; consequently it is difficult to identify exactly what the thesis is. The essay moves from an unsatisfactory introductory paragraph to an ending that does not serve as a conclusion, thus conveying the sense that much of what has been presented is unresolved. Sentence structure is often awkward and transitions are ineffectual and/or abrupt or simply missing. Diction, tone, and word choice are not appropriate for the subject or for the implied audience. Mechanics (grammar, punctuation, spelling and documentation, if needed) disrupt reading and often obscure meaning.

0: No submission or submission is of such low quality that no credit may be awarded

Field Experience:

Each student is required to complete a minimum of 50 hours of field experience in local middle and high schools as part of MED 200. Detailed procedures for the field experience will be shared in class. Please note the following highlights:

- The field experience takes place in schools/classrooms in which there is a pre-existing arrangement between Dr. Wilson and the host teacher(s).
- ➤ These hours are completed *across* the semester, not during a one or two week period. Toward that end, you are expected to average 5 hours per week during the 12-14 weeks of observation.
- You are expected to honor your scheduled observations and complete the observation verification forms with the teacher's signature.
- > You are *not* to miss any classes to attend field experience. Please plan your times accordingly.
- If an emergency or illness prevents you from attending the field experience, you are expected to email or text your instructor prior to the observation. Your instructor will notify the host teacher(s) of your absence. Treat your observation hours as you would a job; you wouldn't skip work without notifying your supervisor. **Do not contact the host school**.
- You will not be able to complete the course without completing the required observations.

Journal: You are expected to maintain a reflective journal for this class. Your weekly entries should stem from your field experiences and document your thoughts related to instructional events in the classroom. The format will be discussed in class, but your writing should adhere to the previously stated guidelines. In addition, journal entries should be no more than two pages, but not less than 1 and not be repetitive in terms of the content and pedagogy discussed. Late submissions will not be accepted.

Exam: There will be one examination during the semester that will be administered on Wednesday, March 15 and a final exam administered during CEP (see CEP schedule when released).

<u>Note on Exam Absence</u>: A minimum of a two-hour notification of an absence from an exam is required. This notification can be by e-mail or telephone to the math department office at 878-5621. In addition, written documentation of the problem is required if a make-up is to be allowed. Specifically, a physician's note must be presented in the event of illness. In the event of a death in the family, a copy of the obituary is required. Failure to adhere to these procedures will result in a grade of zero on the exam.

Quizzes: There will be a quiz at the start of most classes. If you are late you will not be able to take the quiz. Questions will stem from assigned readings or videos, or previously discussed content.

Class Participation and Group Process: You are expected to participate fully in the discussions that take place within your groups and across the class. In part, your engagement in these discussions is a way of developing your own thinking about the course content and thus is an integral part of the learning experience. It is expected that you will function effectively as part of a group and the following rubric will be used to assess your active engagement in the group process and efforts at promoting an effective learning environment for all.

	Copper a	LIVE LECUL		cators
	4	3	2	1
Works Toward Group Goals				
Uses Effective Interpersonal Skills				
Contributes to Group Maintenance				
Takes on a Variety of Roles				

Individual Assessment of Cooperative Learning indicators

Indicator descriptions

Works Toward Group Goals:

4: Actively helps identify group goals and works hard to meet them

3: Communicates commitment to group goals and effectively carries out work to meet them

2: Communicates a lack of commitment to the group goals

1: Does not work toward group goals or actively works against them

Uses Effective Interpersonal Skills:

4: Actively promotes effective group interactions and the expression of ideas and opinions in a way that is sensitive to the feelings and knowledge base of others

3: Participates in group interaction without prompting. Expresses ideas and opinions in a way that is sensitive to the feelings and knowledge base of others.

2: Participates in group interaction with prompting or expresses idea and opinions without considering the feelings and knowledge base of others.

1: Does not participate in group interaction even with prompting or expresses ideas and opinions in a way that is insensitive to the feelings or knowledge base of others.

Contributes to Group Maintenance:

4: Actively helps the group identify changes or modifications necessary in the group process and works toward carrying out those changes.

3: Helps identify changes or modifications necessary in the group process and works toward carrying out those changes.

2: When prompted, helps identify changes or modifications necessary in the group process or is minimally involved in carrying out those changes.

1: Does not attempt to identify changes or modifications necessary in the group process even when prompted or refuses to work toward carrying out those changes

Takes on a Variety of Roles:

4: Effectively performs multiple roles within the group

3: Effectively performs one role within the group

2: Makes an attempt to perform one role but has little success

1: Rejects opportunities to perform one role

TaskStream LAT: Learning Achievement Tool

Buffalo State teacher education programs collect and document candidate performance using an online tool called *TaskStream*. *TaskStream* enables faculty and administrators to assess individual candidate progress and overall program performance across the various teacher education programs. As a part of this course, you will need to establish an account in Taskstream (details to follow). **Failure to complete this will result in a grade of I.**

Academic Integrity: The university has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect for others' academic endeavors. By placing their name on academic work, students certify the originality of all work not otherwise identified by appropriate acknowledgments. No credit shall be awarded in situations where it has been determined that this policy has not been followed. (Adapted from the University of Wisconsin's Student Disciplinary Guidelines) Instances of academic misconduct may result in a failing grade and/or disciplinary actions including program dismissal. Note: I will use a *0 to indicate a grade of zero that reflects what I see as plagiarized work. You may challenge this grade by meeting with me and discussing the process by which you arrived at your response.

Statement on Students with Disabilities: If you have a diagnosed physical disability, learning disability, or psychological disability which will make it difficult for you to carry out the course work outlined above or which requires accommodations such as assistance from note takers and/or readers, extended time on assignments, and so on, please advise us during the first week of the course and contact

the Student Accessibility Office in Twin Rise South 120 (878-4500) to discuss possible arrangements for reasonable accommodations.

Out-of-class Communication

I use email as my primary mode of communicating. Please copy me on any email communications to your mentor teachers to inform me of any issues regarding your observations. When replying to an email please use "reply" to respond so that the existing email is visible. (i.e., don't open a fresh email window). I also ask that you please not "text" in email. Your emails should be composed of a greeting, body (complete and grammatically correct sentences), and a closing/signature.

<u>Classroom Etiquette:</u> Please <u>silence</u> all cell phones and put them out of sight so as not to interrupt your engagement in the lesson. Please inform me of any emergency situation that requires otherwise. Similarly, you are expected to arrive on time for every class. <u>At no times should your cell phone be</u> on or visible during your field experience in our local schools.

Important Dates (see exam date above):

February 20-24: Public School Winter break (verify school calendar) March 20-24: Buffalo State Spring break April 10-17: Public School Spring break (verify school calendar) Wednesday May 3: last class meeting before CEP Monday May 8 or Wednesday May 10: Final exam during CEP (see CEP schedule)

Buffalo State Teacher Candidate Assessment					
Early Field Experier	nce Assessment Form				
Teacher Candidate In	formation				
Last Name					
First Name					
Semester (fall or spring)					
and Year					
Mentor Teacher					
Last Name					
First Name					
School					

Instructions: The following evaluation is intended to provide preliminary information on our teacher candidates ability to work as a professional in and educational environment. It should be completed with the knowledge that they are in their first course designed to develop the knowledge, skills and dispositions necessary to be a successful mathematics teacher.

Click the radio button corresponding to the appropriate performance rating for each assessment item. Please note that the rubrics are written such that the 'Exemplary' option is reserved for the most outstanding rating and should be granted only when the candidate is considered to be exceptional in that area.

Please use the following criteria for selecting your ratings:

NA: Not applicable to the placement.

Unacceptable: The candidate demonstrated little to no understanding of and the use of skills, concepts and dispositions associated with the criterion. The candidate struggled and or was unable to recognize areas of strength, as well as areas that still require further development.

Developing: The candidate inconsistently demonstrated knowledge and application of skills, concepts and dispositions associated with the criterion. The candidate recognized some areas of strength, yet there are some areas that still required further development. The candidate needed a great deal of prompting when reflecting on their experience.

Proficient: The candidate consistently demonstrated the expected knowledge, application of skills, concepts and dispositions associated with the criterion. The candidate was aware of areas of strength, and can identify areas that still require further development; however, the mentor, at times, still needed to prompt the candidate when reflecting upon their performance.

Exemplary: The candidate consistently demonstrated exceptional knowledge, application of skills, concepts and dispositions associated with the criterion that is beyond what is expected of a candidate in this early phase of their program. The candidate was able to self-assess areas of strength and those in need of further development, without the mentor needing to draw out that reflective information.

Professionalism					
	Unacceptable	Developing	Proficient	Exemplary	N/A
1. Dresses appropriately for setting.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
2. Arrives on time with no unexcused absences.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
3. Assists as requested and takes initiative to help when appropriate.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
4. Completes tasks when assigned or requested.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
5. Continually develops, refines, and reflects on professional knowledge and practice to improve student learning.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
6. Listens and responds thoughtfully and positively to feedback and suggestions from supervisor, school- based faculty, and colleagues/classmates.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Add comments about the ca	ndidate's professiona	alism (optional):			

Knowledge and Skills

Instructions: Rate the teacher candidate on their knowledge of the content and on professional skills important for new mathematics teachers to acquire. Click the radio button corresponding to the appropriate performance rating for each assessment item. Use the same criteria as in the previous section. Please note that the rubrics are written such that the 'Exemplary' rating is reserved for the most outstanding candidate and should be granted only to those candidates considered to be exceptional.

	Unacceptable	Developing	Proficient	Exemplary	N/A
7. Displays solid content knowledge and makes connections between the content and other parts of the discipline.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

	Unacceptable	Developing	Proficient	Exemplary	N/A
8. Understands how students learn and develop and supports the intellectual, social, emotional, language and behavioral development of <u>all</u> <u>students.</u>	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
9. Selects appropriate teaching strategies and materials to accommodate different instructional purposes and individual student needs.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
10. Engages <u>all</u> <u>students</u> in active learning that promotes the development of critical thinking, problem-solving, and performance capabilities.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
11. Holds high expectations for all students and the belief that <u>all children</u> can learn.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
12. Monitoring of student behavior is evident and response is consistent and appropriate.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
13. Demonstrates fairness and belief that all individuals can learn when interacting with others from <u>differing:</u> sociocultural, developmental, and family backgrounds; behavior and attention abilities; and personal skills, talents, and interests.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

	Unacceptable	Developing	Proficient	Exemplary	N/A	
14. Implements and evaluates long-term objectives in Individualized Education Plan (IEP) to meet students' individual needs and to enhance learning.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
15. Seeks to foster culturally sensitive communication by and among <u>all students</u> .	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
16. Listens actively, thoughtfully, and responsively to <u>all</u> <u>students</u> .	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
17. Models effective communication strategies and interpersonal skills.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

Add comments about the candidate's Professional Knowledge and Skills (optional):

Professional Dispositions

A teacher's effectiveness in the field is dependent upon the development of appropriate professional dispositions. Positive Outlook, Intellectual Integrity, Respect, Self-Awareness, and Dedication are the five such dispositions defined below. Please rate the teacher candidate's demonstration of behaviors that reflect positive professional dispositions and supports student learning and development using the same criteria as in previous sections.

	Unacceptable	Developing	Proficient	Exemplary	N/A
18. POSITIVE OUTLOOK: demonstrates teacher traits daily including: the belief that all children can learn; cheerfulness and praise towards others; sees good and possibilities in situations; views challenges as opportunities; enthusiasm; and optimism.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
19. RESPECT: is respectful to staff, faculty, professors, and colleagues; respectfully self-advocates when necessary; shows compassion and empathy for students, colleagues/classmates, mentor, and professors.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
20. INTEGRITY: fosters trust among and between students, colleagues, mentor, and professors by maintaining a high level of reliability. Demonstrates sound morals; is truthful, honest, and sincere; is fair and just in all situations with all students.		\bigcirc	\bigcirc	\bigcirc	
21. DEDICATION: not easily frustrated, sticks to a task until completed at a high level of competency; independently and continually uses, develops, and adopts a wide range of personal and professional resources; and consistently solves problems.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

	Unacceptable	Developing	Proficient	Exemplary	N/A
22. SELF- AWARENESS: demonstrates ability to accurately self-assess personal prejudices, assumptions and biases; self-regulates thinking and behavior; accepts and welcomes feedback; and recognizes the impact these have on students and the environment.	\bigcirc	\bigcirc	\bigcirc		

Add comments about the candidate's professional dispositions (optional):

Buffalo State Teacher Candidate Assessment
Verification of Hours and Candidate Potential
Please answer the following yes/no questions.
I verify that the teacher candidate gained experience working with English Language Learners.
 Yes
○ No
I verify that the teaching candidate gained experience working with Students with Special Needs.
Yes
No
In my professional opinion, this teacher candidate is adequately prepared to continue to the next phase of the program. If you respond 'no', please note your concerns and reservations in the comment space below.
Yes
No
Comments:
If timing, my schedule, or district policies permitted, I would be willing to work with this teacher candidate for student teaching.
Yes
No