

MATH 228 _Fall 2020

Tuesday 11:00-12:15 pm (Virtual-Z(R)oom); Thursday 11:00-12:00 pm (Virtual-Z(R)oom)

Instructor: Dr. Sinan Kanbir

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Office Hours: Monday/Wednesday: 12:00 – 1:00 pm
(Drop in- Zoom)



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Available ✓

Course Description:

MATH 228. Fundamental Mathematical Concepts for Elementary Teachers. 3 cr. Basic concepts and properties of set, number systems, and function for elementary school mathematics. Prereq: MATH 100 or placement above MATH 100. GEP: QL*

**This course will fulfill the Quantitative Literacy(QL) requirement as part of the General Education Program(GEP) for education majors only. Because this course is identified as a QL course in the GEP, assignments and assessments may be collected and copied for use of in GEP assessment. Names or identifying marks will be removed from copies of collected artifacts.*

Course Purpose and Goals:

Too often our previous experiences with mathematics have caused us to focus on memorization and finding correct answers. Consequently, our understanding of what mathematics is and what it means to do mathematics is shaped by these experiences and is rather limited and narrow. **However**, this course is designed to develop your understanding of mathematics by providing opportunities for you to experience what it means to problem solve and reason about mathematics. Emphasis is on problem solving (investigating, conjecturing, and justifying), on understanding of concepts, on connections among concepts, and on written and verbal communication of strategies and reasoning. Basically, as future teachers, you need to develop a “deep understanding” of the mathematics you teach. For this to happen, the content of each course is stretched beyond the level that generally might be taught in a K-8 setting.

Therefore, you will be expected to provide complete explanations and justifications of the reasoning you used to solve problems. This requires practice and commitment to sense making on the part of the student. You must participate mentally in the learning process. This participation includes studying the material; working with others; struggling with non-routine problems; reasoning and solving problems; symbolically representing mathematical thinking and reasoning; listening to others; reflecting about what you are doing; as well as the more typical tasks of taking examinations and doing homework.

Textbook/Resources:

Beckmann, S. (2018). [5th Edition] *Mathematics for elementary teachers with activities*. Boston: Pearson.

Other Resources (see Library Reserve section or online journal):

Carpenter T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. . (1999). *Children's Mathematics: Cognitively Guided Instruction*, Second Edition Portsmouth, NH: Heinemann.

Blanton, M. L. (2008). *Algebra in elementary classrooms: Transforming thinking, transforming practice*. Portsmouth, NH: Heinemann.

Thomas P. Carpenter, Megan Loef Franke and Linda Levi (2003). *Thinking mathematically: Integrating arithmetic and algebra in the elementary school*. Portsmouth, NH: Heinemann. ISBN 0-325-00565-6.

Common Core State Standards for Mathematics: Download from website:
http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf (can be found at your D2L/resources)

<https://www.illustrativemathematics.org/content-standards/1>

Additional Readings will be available on Canvas

Course Structure and Tentative Requirements

Attendance (20 points): Because we will be seeking a way to teach children mathematics in way that you were not taught, attendance and participation are crucial elements in this course to envision how it would be studied and/or practiced in classroom. You are expected to attend every class meeting. If you are absent more than 3 or more virtual meetings without any special circumstances, it will be considered unprofessional, and it will result in a disposition concern form. If you are absent **6 or more virtual meetings**, your course grade will be "F". There will be no penalty for 3 absences during the whole semester. After the third absence, 5 points per absence will be subtracted from your total maximum attendance points. Leaving from a virtual meeting would also consider as an absence.

Participation (30 points): You are expected to participate in this fall's virtual class activities and discussions. In your actively mode of learning environment, you are not only reading what others had written (*receptive*) but also to write and to speak using your *expressive* language. Not only listen my knowledge about mathematics (*receptive*) but also engage in small –group discussion and make verbal reports to the whole class (**expressive**).

Your participation in class also means that you should not only share your ideas during class discussions and in small group work, but also listen and learn from me and from your course mates. **You will be asked to present solutions to the class, and your willingness to do so will be reflected in your grade. It is expected that you will present your solutions at least 5 times during the semester.**

Presentation (40 points): You will present **two 10-minute long presentations**. One, Children's literature book, and the other, article presentation from Teaching Children Mathematic. Details will be presented later.

Read-Write/Reflection (50 points): We will read some assigned reading from multiple sources. You will see a tentative schedule for reading assignments, but dates or even the readings themselves may change as we go along. You will be asked to submit your reflections approximately **three times** during the semester. The intent is to support you in developing a habit of reflection on your own thinking and learning; you may even find this record useful when you begin teaching. Only reflections that are typed will be accepted, unless otherwise specified

Homework assignments: (90 points) You will be asked to work on and hand in approximately ten paper-scan (No need to print out) homework assignments (activities from your textbook and sets of materials from my sources) which will give you the opportunity to solidify and further develop your understanding of ideas we will cover in class. More information about the assignments will be given with each assignment.

Weekly Quizzes (100 points): There will be weekly evaluations based on a weeklong topic (HW, and in-class materials) via Canvas in both quiz and paper-scan versions.

Quizzes (50 points): There will be 2 quizzes scheduled regularly throughout the semester via Canvas. Each quiz will be announced in one-week advance.

Mid-Term Exam (40 points): There our mid-term exam in the second part of the semester. It will comprise one entire 60-minute of virtual class meeting time. Study guide will also be provided.

Final Examination (80 points): The final examination time will be during finals week. More information about the content will be provided.

E. Grading

This 4-credit hour class requires 6–8 hours of outside of class study per week. Make sure that you schedule and put in those hours consistently throughout the semester. Your course grade will be calculated on a percentage basis (number of points earned out of number possible) and assigned a corresponding letter:

94-100% = A	90- 93 % = A-	
86-89% = B+	83-85% = B	80-82% = B-
76-79% = C+	73-75% = C	70-72% = C-
66-69% = D+	60-65% = D	
Less than 60% = F		

I will not use any kind of judgments to lower your final grade.

MATH 228 -Point Distribution (Dr. Kanbir)

Evaluation Item	Points (Max)
Attendance	20
Participations	30
Presentations	40
Read-Watch/Write- Reflection	50
Homework-Assignments	90
Weekly Quizzes	100
Quizzes- 2 times	50
Mid-Term	40
Final	80
Total	500

All of this requires a level of focus that cannot be obtained while you are using your cell phone (including texting, social networking, playing games or browsing the internet) or reading other material (including preparing for other classes). **The use of a cell phone (which includes texting), reading other materials, and other unproductive and disruptive behaviors (during our meetings) are considered unprofessional. Please note that unprofessional behaviors have significant negative affect on you and your group and may result in a disposition concerns form.** Activities such as talking or leaving the classroom while class is in session should be avoided.

Disposition Concerns: The Mathematical Sciences Department takes the preparation of teachers seriously. As such, we expect pre-service teachers to treat their preparation with the same level of seriousness. As you may know, the School of Education evaluates teacher candidates based on certain disposition indicators:

- Collaboration Issues: The ability to work together, especially in a joint intellectual effort.
- Honesty/Integrity: The ability to demonstrate truthfulness to oneself and to others; demonstrate moral excellence and trustworthiness.
- Respect: The ability to honor, value, and demonstrate consideration and regard for oneself and others.
- Emotional Maturity: The ability to adjust one's emotional state to suitable level of intensity in order to remain engaged with one's surroundings.
- Reflection: The ability to review, analyze, and evaluate the success of past decisions in an effort to make better decisions in the future.
- Flexibility: The willingness to accept and adapt to change.
- Responsibility: The ability to act independently, demonstrating accountability, reliability and sound judgment.

While there are many behaviors that may result in the issuance of a disposition concern form, some of the most frequent causes are *poor attendance, consistently being late for class, and not completing assigned tasks*. We view each of these as an indication of lack of reverence for learning and lack of responsibility, and any of these will result in the filing of a disposition concerns form. Any student needing to arrange a reasonable accommodation for a documented disability should contact Disability Concerns at 715-346-3365 or emailing datctr@uwsp.edu and/or by completing the <http://www.uwsp.edu/disability/Documents/Request%20for%20Services.pdf> For more information, check out the Assistive Technology website. <http://www.uwsp.edu/assistive/Pages/default.aspx>