

**Math 345- 01**  
**Monday 11:00-12:15 pm; Wednesday 11:00-12:15 pm**

**Instructor:** Dr. Sinan Kanbir

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**Phone:** 715-346-2120 [Mathematical Sciences]

**Office Hours:** Tuesday: 11:00 – 12:00 pm (Drop in- Zoom)

**Course Description:**

**MATH 345. Fundamental Mathematical Concepts for Elementary Teachers III 3 cr.** Topic from rational numbers (fractions) and real numbers with an emphasis on problem-solving, algebraic reasoning, proportional reasoning, probability, statistics, and data analysis. Prereq: Math 338.

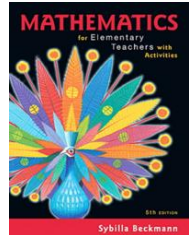
**Course Purpose and Goals:**

An overall goal of this course is to provide a rich perspective and background in rational numbers (fraction concepts), problem solving, data analysis, proportional and algebraic reasoning, and connection between arithmetic and algebra so that the related content can be taught knowledgeably and confidently. For this to happen, the content of each course is stretched beyond the level that generally might be taught in a K-8 setting.

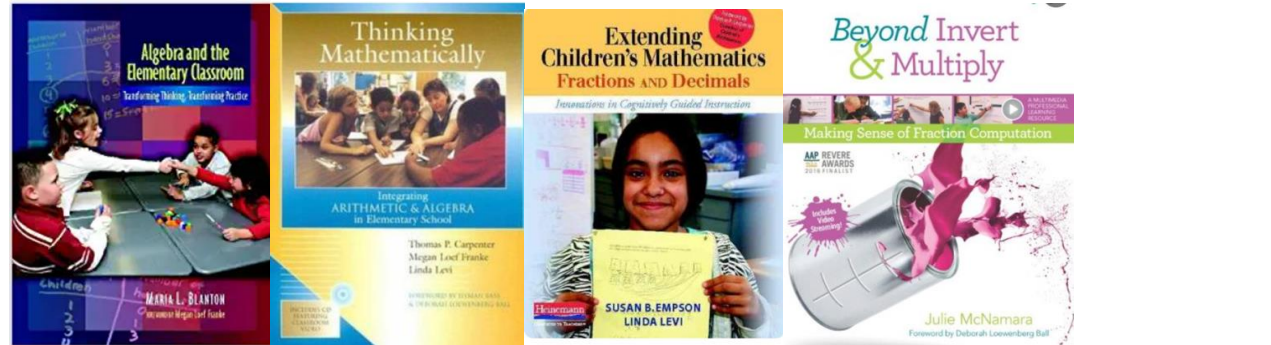
You must participate mentally in the learning process. This participation includes studying the material; working with others; struggling with non-routine problems; reasoning about and solving problems; symbolically representing mathematical thinking and reasoning; listening to others; reflecting about what you are doing; as well as the more typical tasks of taking examinations and doing homework.

**Required Textbook/Resources:**

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



**Course Materials/ Resources /Not Required- Reading materials will be provided.**



1. McNamara, J. (2015). Beyond invert and multiply: Making sense of fraction computation. CA: Math Solutions.
2. Blanton, M. L. (2008). Algebra in elementary classrooms: Transforming thinking, transforming practice. Portsmouth, NH: Heinemann.
3. Thomas P. Carpenter, Megan Loef Franke and Linda Levi (2003). *Thinking mathematically: Integrating arithmetic and algebra in the elementary school*.
4. Empson, S. B., & Levi, L. (2011). Extending children's mathematics: Fractions and decimals

### Online Resources

1. <https://dpi.wi.gov/sites/default/files/imce/standards/New%20pdfs/MathematicsStandards2021.pdf>
2. <https://buildmathminds.com/resources>
3. <https://curriculum.illustrativemathematics.org/HS/index.html>
4. <https://www.teachingchannel.com/>
5. <https://www.youcubed.org/>
6. <https://www.openmiddle.com/>
7. <http://www.wodb.ca/>
8. <https://estimation180.com/>
9. <https://openupresources.org/math-curriculum/6-8-math/>

### Course Structure and Tentative Requirements

**Attendance (20 points):** Because we will be seeking a way to teach children mathematics in a 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 the classroom. You are expected to attend every class meeting. If you are absent **from more than 2 or more in-person/virtual meetings** without any special circumstances, it will be considered unprofessional, and it will result in a disposition concern form. If you are absent **from 6 or more virtual meetings, your course** grade will be "F". There will be no penalty for 2 absences during the whole semester. After the second 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 (20 points):** You are expected to participate all class activities and discussions. In your active mode of learning environment, you are not only reading what others had written (*receptive*) but also writing and speaking using your *expressive* language. Not only listen to 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 4 times during the semester.**

**Presentation (30 points):** You will present **two 10-minute-long presentations**. One is an article from Teaching Children Mathematics, will be as a pair. The focus of this assignment is to gain some understanding of the main elementary concepts from the journals designed to support elementary school teachers' mathematics instruction. The second presentation will be various math game presentations. Details will be presented later.

**Read-Watch-Write/Reflection (60 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 **five-six 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 online or face to face.

**Weekly Problem Sets (100 points): Transition to Algebra Book Materials**

You will complete two problem sets (2x12=24 problems) every week and submit them every Sunday night.

**Homework assignments: (70 points)** You will be asked to work on and hand in weekly 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.

**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 (50 points):** There will be a mid-term exam in the second part of the semester. It will comprise one entire 60-70 minutes of class meeting time. A study guide will also be provided.

**Final Examination (90 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 345-Point Distribution (Dr. Kanbir)**

<b>Evaluation Item</b>	<b>Points</b>
Attendance	20
Participations	20
Presentations	30
Read/Write- Reflection	60
Weekly Problem Sets	100
Weekly Homework -Weekly Reading- Articles	70
Quizzes- 2 times	60
Mid-Term	50
Final	90
<b>Total</b>	<b>500</b>

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](mailto: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>

### **Important Dates for Spring Semester**

**Classes begin - Jan. 24**

**Last day to add or drop a 16 week course without a grade - Feb. 2**

**Spring Break begins at 6pm - March 18**

**Classes resume - March 28**

**Last day to drop a 16 week course - April 8**

**Last day of classes - May 13**