MATH /MATH ED 345 (Section 2) Spring 19
Monday 13:00-14:50am (Sci A 212); Wednesday 13:00-14:50am (Sci A 212).

Instructor: Dr. Sinan Kanbir
Office: D357 Science Building
Office Phone: (715) 346-2621
Email: skanbir@uwsp.edu
Office Hours: Tuesday 13:00- 14:30 pm or by appointment

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 and co reg in Math Ed 345.

MATH ED 345. Teaching Elementary School Mathematics. 1 cr. Principles, goals, methods, study of curricular content and assessment techniques; includes field experience. Prereq: Math Ed 338 or Math Ed 339 and con reg in Math 345.

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.

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. It also provides candidates with a unique opportunity to develop a clear understanding of mathematical ideas and processes, to communicate these ideas to others, and to apply them in their teaching. Emphasis is on problem solving (investigating, conjecturing, and justifying), on understanding of concepts, on connections among concepts, and reasoning.

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. **You will be expected to provide complete explanations and justifications of the reasoning you used to solve problems.**

Required Textbook/Resources:

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

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

Empson, S. B., & Levi, L. (2011). Extending children's mathematics: Fractions and decimals.

McNamara, J. (2015). Beyond invert and multiply: Making sense of fraction computation. CA: Math Solutions.

McCoy,A.,Barnett, J., & Combs, E. (2013). *High--yield routines: Grades K–8.* Reston, VA: National Council of Teachers of Mathematics.

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) _Grades K-6
https://www.illustrativemathematics.org/content-standards/4

Additional Readings will be available on D2L.

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 **times** without any special circumstances, it will be considered unprofessional, and it will result in a disposition concern form. If you are absent 6 **classes** (1 day meeting = 2 classes) or more, 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.

There will be no make-up exam with the possible exception of unforeseen emergencies (decided by instructor). If there is an emergency, the student must provide official written documentation and the make-up exam must be arranged within 5 calendar days. (This should be done through the Dean of Students or the Disability and Assistive Technology Center). Further, you are responsible for making sure that you have copies of **all** material distributed in class, announcements made in class, and content covered in class. **(Ask your friend to collect class works and assignments - try not to ask me to send class materials)**

Participation (30 points): You are expected to participate in 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 solutions and/or lead a discussion at least *6 times* during the semester.**

Presentation (40 points): You will present **two 10-minute long presentations**. One, Children's literature book, will be as an individual and the other, article from Teaching Children Mathematics, will be as a pair. The focus of this assignment is on becoming acquainted with a peer-reviewed journal designed to support elementary school teachers' mathematics instruction and on critically examining articles in relation to current reforms in mathematics education as well as how they relate to state and national standards. Details will be presented later.

Read-Write/Reflection (30 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

Lesson Plans for Practicum Experiences (30 points): This course includes three practicum experiences. For each experience, your grade strand will write a lesson plan. More information about the content and grading will be provided

Practicum Experiences Summaries and Reflections (30 points): Right after the practicum experiences you will write a summary and reflection of your teaching. Information about the format and content of the summary and reflection will be provided.

Homework assignments: (90 points) You will be asked to work on and hand in approximately ten paper 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.

Computational Fluency Test (CFT): (45points) You will be taken a pre- and post-version of the CFT tests. The pre-version will not be graded but the post-version will be graded and it will be around the week 12 of this semester.

Weekly Quizzes (50 points): There will be quick weekly evaluations (15-20 minutes) based on a weeklong topics (HW, and in-class materials).

Quizzes (50 points): There will be 2 quizzes scheduled regularly throughout the semester. A quiz may be 35 – 45 minutes in length. Each quiz will be announced in one-week advance.

Tests (70 points): There will be 2 tests given throughout the semester. Each will comprise one entire 50-minute class period. Study guide will also be provided.

Final Examination (100 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/MATH 345-Point Distribution (Dr. Kanbir)

Evaluation Item	**Points (Max)**
Attendance	20
Participations	30
Presentations	40
Read/Write- Reflection	45
Practicum Lesson Plans	30
Practicum Summaries	30
Homework- SETs	90
Computational Fluency Test (CFT)	45
Weekly Quizzes	50
Quizzes	50
Tests	70
Final	100
Total	**600**

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). With both in class and in the school doing practicum work, it is extremely important that you interact with your colleagues, school personnel, and children in a respectful manner. **The use of a cell phone (which includes texting), reading other materials, and other unproductive and disruptive behaviors (during class or at the practicum location) 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. **Cell phones must be out of sight.**

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