George Mason University Spring 2022
MATH-272 – Mathematics for the Elementary School II (3 credits)

Instructor:	**Crossin** kcrossin@gmu.edu **Office location: Exploratory Hall, room 4205** **Office hours: TBD by the second week of class.**
Required Materials:	1. Mathematics for Elementary Teachers, A Conceptual Approach. 9th Edition. Bennett, Burton and Nelson. Details available in class. 2. Base 10 blocks and a ruler and tape measure if you have one. 3. A pencil bag containing the following: colored pencils or pens, graph paper, glue stick and/or tape, ruler with cm and in, internet access, a small stapler, scissors, a four-function calculator with a square root button, and a couple of dry erase markers (colors are nice), and an old unmatched sock (to use as an eraser/dry erase marker holder). You might also need a protractor and a compass. We will give you some notice before we use them.
Course Description:	This is a continuation of MATH 271. MATH 271 is required before enrolling in MATH 272. Topics include elementary number theory, real numbers, intuitive geometry, and measurement (including the metric system), statistics and probability. Intended for elementary school educators; does not count toward a major in mathematics.
Preparedness / Collaboration:	In this course, we will spend almost all our time exploring mathematical ideas in groups. To make this course function, I need everyone to come prepared for class each day, and to think carefully about how to make your group a great place to work and learn. Being prepared means: • Doing all assigned readings & watching all videos before class and bringing notes to class • Asking questions about homework and concepts before coming to class • Bringing all necessary materials to class, as instructed, usually on Blackboard Collaborating in class means: • Making thoughtful contributions to the group discussions and activities • Staying on task • Being an active listener • Being on time and staying engaged for the entire class Your classwork and collaboration grade will be based on my observations of you with your group members, along with self and peer evaluations, and assignments completed collaboratively.
Cell phones:	Using your cell phone during class takes away your ability to fully focus on class and frequently disrupts others in class as well. If you are on your phone during class, you will be required to leave and forfeit the classwork grade(s) for that day.
Reading	Reading your conceptual textbook will be vital in this course. Some tips include: • Reading should be active – read with a pencil, make notes, and answer the questions asked in the text • Mark anything you have questions about with a sticky note and then come ask one of us about them. Be sure to write yourself notes about what we find together. • If it works for you, consider keeping a notebook of notes from your reading.
In Class Work and quizzes:	As noted above, we will be actively collaborating on mathematical tasks and activities during class. Many of these activities and tasks will have a final product that will be collected at the end of the class period. If you miss class, you miss the opportunity to turn these assignments in. Pop quizzes may be given randomly, to be counted as a quiz grade. **Some** quizzes *may* be retaken – ask.
Out of Class Work:	Prep work is required before most classes. Prep work is sometimes time consuming and other times just printing and cutting out shapes to bring to class to play with. Prep work will count as either a homework grade or part of a classwork grade for that day. Prep work is listed on blackboard and sometimes through an emailed announcement or oral announcement in class the day prior. Homework will be assigned weekly (sometimes more than once) it can be assigned out of the book, online, or in handouts. Homework will generally be submitted to gradescope by 11:59 pm on the Tuesday after it is assigned. Homework is not to be completed before the class that covers that topic, as there may be additional steps that are required to get full credit which will be clarified in class.

Tests:	There are some quizzes, 2 unit exams, and one comprehensive final exam.	
Requirements and Grading:	Quiz Average	10%
	2 Unit Tests	40%
	Final Exam or project TBD	20%
	Prep work and Homework Average	10%
	Classwork grade	10% I will drop some. Do not come to class sick.
	Collaboration grade	10%
Scale:	100-90%	A
	89.9-80%	B
	79.9-70%	C
	69.9-60%	D
	59.9-0%	F +/- may be based on grade distribution
Academic dishonesty and the GMU Honor Code:	You are expected to follow the GMU Honor Code http://oai.gmu.edu/the-mason-honor-code-2/ No collaboration is allowed on quizzes or tests. Any indication that you have worked together, used someone else's ideas, copied, or allowed fellow student to copy your work is a violation of the GMU Honor Code. **Some** of the behaviors that will be considered cheating are: • Communicating with another person during an assessment • Copying material from another person from any assignment being graded • Allowing another person to copy from any assignment being graded • Use of unauthorized assistance on any assignment being graded • Use of unauthorized notes, books, calculators or cellphones during an assessment • Providing or receiving a copy of a quiz or exam used in the course	
Learning Differences & Special Needs	If you have a learning or physical difference that may affect your academic work, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu . All academic accommodations must be arranged through the ODS.	
Counseling and Psychological Services	Counseling and Psychological Services are available for GMU students. http://caps.gmu.edu 703-993-2380	
University Policies	The University Catalog, http://catalog.gmu.edu, is the central resource for university policies affecting students, faculty and staff conduct in university academic affairs. Other policies are available at http://universitypolicy.gmu.edu/. All members of the university community are responsible for knowing and following established policies.	

Health, Class, and Test days: If you are feeling unwell in any way, please do not come to class. Do the daily COVID health check and drink water and rest. Email me and we will work something out. Please take care of yourself and be careful for those around you. If I become ill, I will email the class and either ZOOM class or cancel.

Diversity, equity and inclusion: George Mason University is an intentionally inclusive community that promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability. Please email me if you have any concerns about any feeling of inequity in this course.

Below is a *tentative* schedule and a *preliminary* list of homework problems from the text book. There will definitely be other homework not from the book and it will be handed out in class, or posted on blackboard. You are responsible for keeping up with any changes, so if you miss class you need to get the information from one of your group members or classmates. I highly recommend that you not do the homework prior to the class when we cover the material. In some sections we have made additional requirements, beyond what is shown in the text book, and you will be marked off for not showing all work.

You are responsible for keeping up with any changes to assignments, due dates, and homework. You are also responsible for informing Crossin if anything looks amiss on BlackBoard.

		Date	Section	Book Homework Problems
1	T	25-Jan	6.3 Ratio, Percent, Scientific Notation	**6.3**: 2-22 even (see special instructions for #20 and 22), 28, 32, 36, 40, 44 - 20a Please convert your answer into a reasonable metric unit and describe why the unit you choose is reasonable. #22 please also write your answer using written in English words.
2	Th	27-Jan	6.4 Irrational Numbers and Geometry	**6.4**: 2- 10 even, 14 - 22 all, 24, 36, 38
3	T	1-Feb	9.1/9.2 Plane Figures and Angles	**9.1**: 4, 10, 11, 13, 14, 15, 17, 18, 19, 24, 26 **9.2**: 4, 28
4	Th	3-Feb	11.3 Similarities	**11.3**: 6, 8, 10-13, 17, and 30
5	T	8-Feb	9.4 Symmetry	**9.4**: 2, 6, 8, 11a&b, 12, 14, 16, 18, 26, 33, and 34 (see special instructions for #11 and 12) #11a&b also place letters in two-circle Venn diagram. Left circle labeled horizontal symmetry, right circle labeled vertical symmetry. Write sentence making hypothesis about intersection of Venn diagram. #12: student with longest word wins a prize
6	Th	10-Feb	10.1 Measurement Review	**10.1**: 2, 5, 8, 9, 10, 11, 13, 14, 20, 26, 28, 33
7	T	15-Feb	10.2 Perimeter & Area Polygons	**10.2**: 6, 7, 8, 10, 13, 14, 17a, 18, 30, 32, 38
8	Th	17-Feb	10.2 Circles	
9	T	22-Feb	10.2 Compound Shapes	**10.2**: 15, 16b, 17b, 19, 20, 21, 22, 23 24, 37, 40, 43
10	Th	24-Feb	9.3 Space Figures	**9.3**: 2, 4, 8, 9, 10, 11, 12, 21, 22, 34
11	T	1-Mar	10.3 Surface Area &Volume	**10.3**: 1, 4, 6, 7b, 8, 9, 10a, 11b, 12b, 13, 14a, 15, 17, 21, 27, 32, 33 Due to exam, this will not be graded. May be turned in 2/25 for feedback only.
12	Th	3-Mar	10.3 Compound Solids	
13	T	8-Mar	Review	Review – No turn in hw today b/c of test.
14	Th	10-Mar	**EXAM 1**	
			Spring Break	
15	T	22-Mar	1.3 Problem Solving Algebra	TBA
16	Th	24-Mar	2.2 Patterns and Functions	**2.2**: 2, 3, 5, 6, 7, 9, 10, 11, 12b, 16, 20, 22, 23, 25, 27, 32, 36, 38
17	T	29-Mar	2.2 Patterns and Functions	
18	Th	31-Mar	7.1 Collecting Data	**7.1**: 1-8, 12, 13, 21-26
19	T	5-Apr	7.1 Graphing Data	**7.1**: 28, 32-34, 42
20	Th	7-Apr	7.2 Describing and Analyzing Data	**7.2**: 2a&b, 3, 4, 10, 12, 14-16, 18, 19, 31, 33, 34
21	T	12-Apr	7.3 Sampling, Predictions, and Simulations	Very tentative list of problems, check with me before you start! 7.3: 1, 2, 5, 8, 12, 20, 22, 25, 28, 36, 41
22	Th	14-Apr	7.3 Educational testing	TBA vocab and normal curve basics
23	T	19-Apr	8.1 Single-Stage Experiments	**8.1**: 4abc, 10abcd, 16abc, 18abcde, 24abcd, 28a, 40, 48abc
24	Th	21-Apr	8.2 Multiple-Stage Experiments	**8.2**: 2abc, 4abc, 6, 8, 9c, 10, 12abc, 14, 16ab, 20, 28abc, 32ab, 33ab, 35ab, 44abc, 54
25	T	26-Apr	8.2 Multi-Stage Experiments	
26	Th	28-Apr	Review	
27	T	3-May	**EXAM 2**	
28	Th	5-May	Final Exam Review **or project presentation TBD**	
	T	16- May	**Final Exam or project presentation TBD**	**1:30 – 4:15**