Instructor: **Learning Assistants:**	**Karen Crossin kcrossin@gmu.edu Office location: Exploratory Hall, room 4221** **Office hours: MW 7:30 – 8:30 AM somewhere in Merten or Peterson Hall TBD 2nd week of class.** I also will make appointments to meet in my office or online **Allison Chung and Heidi Pak Office hours: Time and Location TBA**
Required Materials: The bag of manipulatives is big and looks like this! This is only available in the bookstore.	1. Mathematics for Elementary Teachers, A Conceptual Approach. 9th Edition. Bennett, Burton and Nelson. ISBN: 978-0-07-351957-9 2. Large Ziploc bag of manipulatives – including blue base 10 blocks and a geoboard 3. **Every Day Materials:** colored pencils or pens, four dry erase markers in different colors, and something to use as an eraser on the whiteboards (an old sock), graph paper, glue stick and/or tape, ruler with cm and in, a small stapler, and scissors 4. **Special Occasion Materials:** a bunch of coins (approx 20 pennies, 10 nickels, 12 dimes and 10 quarters), a four-function calculator with a square root button.
Course Description:	Concepts and theories underlying elementary school mathematics, including sets, logic, systems of numeration, whole numbers, integers, fractions, decimals, measurement, operations with real numbers, equations, and inequalities. Intended for school educators; does not count toward a major in mathematics. ==All students will be required to do basic computations without the use of any calculator.== **THIS IS NOT A TEACHING METHODS COURSE!!! This is a MATH CONTENT course.**
Preparedness / Collaboration:	In this course, we will spend almost all of our time exploring mathematical ideas in groups. In order to make this course function, I need everyone to come prepared for class each day, and 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 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 grade will be based on my observations of you with your group members, along with self and peer evaluations, and assignments completed collaboratively in class.
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 class work 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. • Read each section we are to cover PRIOR to attending the class. Reading notes are checked as prep work sporadically throughout the term. • 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:	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 will be given randomly, to be counted as an in-class grade.
Out of Class Work: **Homework and Prepwork**	There is prep work almost every day in this class, it is described on Blackboard in our daily lists under the course content tab. Homework will be assigned out of the book, online, or in handouts. Book homework will be collected the class after it is assigned and covered. 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 that will be clarified in class.

Exams & Final:	There are 3 exams in this course, and one comprehensive final exam.	
Requirements and Grading:	3 Unit Tests	100 points EACH
	Final Exam	200 points
	Homework and Prepwork Average	100 points
	Quizzes Average	100 points
	Classwork and Collaboration Average	100 points
Scale:	100-90%	A
	89.9-80%	B
	79.9-70%	C
	69.9-60%	D
	59.9-0%	F
		+/- will be based on grade distribution
Academic dishonesty and the GMU Honor Code:	You are expected to follow the GMU Honor Code https://oai.gmu.edu/mason-honor-code/ 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.	

A *tentative* schedule and a *preliminary* list of homework problems from the textbook are provided below the syllabus on Blackboard. 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 well in advance of the next class. 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 textbook, and you will be marked off for not showing all work.

Tentative Schedule and homework. All homework is Due the class after it is covered. Staple each section separately.

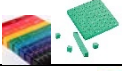| Day		Date	Section being covered	Homework Problems	Manipulatives Needed – Check Bb	WHAT DID I KNOW? PK (Prior Knowledge)	STRUGGLES?	Aha Moment!?!
1	M	8/27	1.2- Patterns and Sequences	1.2 #s 2,3,4,7,8, 22, 29, 30, 37,38,40, 44, 46	Karen brings color tiles			
2	W	8/29	1.1 – Problem Solving	1.1 #s 1, 3, 5,6, 9, 13, 17	Karen brings color tiles			
3	W	9/5	2.1- Sets and Venn Diagrams	2.1 #s 5-12, 21, 22, 24, 26, 28, 35, 38 Also – Online material	Yourself! Dry erase markers **1.1 and 1.2 HW due** (Stapled separately!)			
4	M	9/10	2.3- Euler Diagrams and Logic **Quiz likely today**	2.3 #'s 5, 8, 10, 15, 17, 19-22 (Use the terms VALID or INVALID) 27 – 31 Also online	Yourself! Dry erase markers **2.1 HW is due**			
5	W	9/12	Counting Carrots		**2.3 HW is due**			
6	M	9/17	3.1- Numeration Systems and Place Value	3.1 #s 5, 6, 7, 8, 11, 12, 13, 14, 16, 20, 21, 22, 24, 26, 38, 42, Counting apples handout on Bb. Create base 5 pieces	The coins listed on your syllabus, all base blocks, and a plastic knife/ Newly sliced base 5 pieces! Bring your textbook!			
7	W	9/19	**Counting Quiz**, measurement, dimensional analysis	Worksheet on Bb!	Coins, ruler, measuring tape **HW due is 3.1**			
8	M	9/24	Combining and Review		The worked review posted on Bb and all listed above			
9	W	9/26	**EXAM 1**		Any of the manipulatives listed above.			

Tentative Schedule and homework. All homework is Due the class after it is covered. Staple each section separately.

Day		Date	Section being covered	Homework Problems	Manipulatives Needed	WHAT DID I KNOW? P.K.	STRUGGLES?	Aha Moment!?!
10	M	10/1	3.2- Addition of Natural Numbers	3.2 #s 3a, 4b, 8a&d only, 14ab, 15, 20ab, 24abc, 32a (these problems are all addition)	Coins, base blocks.			
11	W	10/3	3.2- Subtraction of Natural Numbers	3.2 #'s 8bce, 22ab, 23bc, 26, 28, 32bcd, 43, 45 These problems are subtraction only	Coins and base blocks **HW due is 3.2, addition only. Please staple addition and subtraction separately.**			
	M	10/8	NO CLASS-COLUMBUS DAY	Mason says Monday will happen on Tuesday				
12	T	10/9	5.1- Addition and Subtraction of Integers	5.1 #s 8, 10, 12 (use steps from class) 18, 25a, 26b	Two color counters and color tiles **HW due is 3.2, subtraction only**.			
13	W	10/10	3.3, 5.1- Multiplication of Natural Numbers and Integers	3.3 #s 8abc, 10ab, 13abc, 14abc, 15abc, 17, 22, 23, 26, 30, 32, 45 5.1 #s 13abcd, 14abcd, 19ac, 23a, 26a, 29ac, 33b, 35ab – these are multiplication only	Base 10 blocks, two color counters, **textbook** 5.1 HW listed from day 12 will be due next Monday due to the super short turnaround time.			
14	M	10/15	3.4, 5.1- Division of Natural Numbers and Integers	3.4 #'s 1,2,4,8,22,25&26 w/o calculator. 5.1 #s 13ef, 14ef, 19bd, 22ad, 33a, 34a (division)	Base 10 blocks and two color counters Turn in three separate stapled assignments – **5.1add and sub, 3.3 day 13 and 5.1 multiplication.**			
15	W	10/17	Review		The worked review posted on Bb, all listed above			
16	M	10/22	**EXAM 2**		Whatever we agree on in class			

Tentative Schedule and homework. All homework is Due the class after it is covered. Staple each section separately.

Day		Date	Section being covered	Homework Problems	Manipulatives Needed – Check Bb also	PK	STRUGGLES?	Aha Moment!?!
17	W	10/24	4.1- Factors and Multiples 4.2- Greatest Common Factor and Least Common Multiple **GCF & LCM QUIZ**	4.1 #s 3-6, 8ab (use grid paper) 11, 12, 17, 18 4.2 #s 1-15				
18	M	10/29	5.2- Rational Numbers	5.2 #s 3a, 4a, 6, 12-34 even,	All fraction manipulatives (towers) **4.1 and 4.2 HW is due**			
19	W	10/31	5.3-Multiplication of Rational Number	5.3 #s 6ce, 13dgh, 14bcfgi, 16, 19b, 20ab, 22a, 32, 38, 40, 50	All fraction manipulatives (towers and pies) Mixed Numbers video on Bb. **HW Due is 5.2** Wear costumes!!			
20	M	11/5	5.3- Division of Rational Numbers	5.3 # 6f, and handout (I hope to have it done)	All fraction manipulatives (towers) **5.3 Multiplication and division is due**			
21	W	11/7	5.3- Addition and Subtraction of Rational Numbers **QUIZ LIKELY on 5.2 and 5.3**	5.3 #s 5ab, 6adf, 13abefi, 14adeh, 17ab, 18ab, 19ac, 21a, 22b, 23ab, 27ab, 30	All fraction manipulatives (towers and pies) **HW due is 5.3 Add and Subtract.**			
22	M	11/12	Review		The worked review posted on Bb, all listed above			
23	W	11/14	**EXAM 3**					

Tentative Schedule and homework. All homework is Due the class after it is covered. Staple each section separately.

Day		Date	Section being covered	Homework Problems	Manipulatives Needed – Check Bb also	PK	STRUGGLES?	Aha Moment!
24	M	11/19	6.1-Decimals and Rational Numbers	6.1 #s 6a-d, 18, 19, 20, 38, 39, 44, 45. Handout (AM 6.1,6.2) #s 5d, 6ab and #s 1e, 3bc, 5abc, 7ab, 10c, 12a	Bring Base 10 Blocks and Fraction pieces			
	W	11/21	NO CLASS-THANKSGIVING					
25	M	11/26	6.2 - Decimal Operations	6.2 problems listed on Bb.				
26	W	11/28	6.3- Percent	6.3 #s 2-22 even (put a star by 20 and 22) 28, 32, 36, 40, 44	Base 10 blocks+fraction pieces. **HW 6.1&6.2 DUE.** Decimal/MultiplicationWorksheet on Bb.			
27	M	12/3	6.4-Irrational and Real Numbers Also discuss MATHEMATICAL SYSTEMS	6.4 #s 2-10 even, 14-18 all, 20, 21, 22, 24, 34, 36, 38, 40. QUIZ on 6.1 – 6.3	Calculator, Geoboard and rubber bands **HW 6.3 is DUE**			
28	W	12/5	Final Exam Review	Turn in this schedule with notes filled in ➡	Bring your worked exam review from Bb.			
	W	**12/12**	**CUMULATIVE FINAL EXAM**	**10:30 – 1:15**				