George Mason University
MATH-272-001 – Mathematics for the Elementary School II (3 credits)
Spring 2020

Instructors:	**Joanna Jauchen**

Office Address & Phone:	Exploratory Hall, room 4403 Email: jjauchen@gmu.edu

Office Hours & Location:
M 3:30 – 5:00 pm (online)
R 1:30 – 3:00 pm (online)
Please send me an email if you want to come by – I'll send you a link to my online session.

Instructor Policies:
1. Work in pencil, please.
2. I do not accept late work.
3. Unless we're using them in class, please turn off computers and phones upon entering class. Please also be sure to put away anything not related to this course.

Class Meeting Time and Location:
Robinson B106
M   10:30 am – 1:10 pm

Required Materials:
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 (at the GMU bookstore)
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).   In addition this semester, you will need a **protractor to measure angles**. We will also be constructing geometric shapes using a variety of materials, of your own choosing. Once you decide how you want to do that, you will need to purchase those materials too.

Course Description:
This is a continuation of MATH 271.   MATH 271 is required before enrolling in MATH 272. Topics include elementary algebra, intuitive geometry, and measurement, including the metric system, statistics and probability. Intended for school educators; does not count toward a major in mathematics.

Blackboard/Email:
I will use Blackboard extensively in this course to post assignments, videos, announcements and to facilitate class discussion. Please plan to check Blackboard and your email daily for updates about the 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 and work before 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 on time and staying engaged for the entire class

Your Collaboration grade will be based on my observations of you with your group members, along with peer evaluations.

Significant deductions are taken for using cell phones during class, as I consider cell phone use to be destructive to positive group environments. Your collaboration grade is 10 points. The first time you are using a cell phone, I take off 5 points. The second time is another 5 points. After that, I ask you to leave class. |
| **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:** | 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. |
| **Discussion Board** | Discussion Board posts are due on the date indicated in the preparation work. Discussion Boards are primarily graded by completeness, clarity and critical thinking exhibited.

 In an exception to normal class policy, discussion board posts are accepted late as follows:
1. The first late post is docked 1.9 points. This leaves a 0.1 to track lateness. So a good, but late post would be graded as 8.1
2. Second late post has an additional 3.8 point deduction. So the top grade is 6.2
3. Any late posts after two are graded as 0

There are no excused absences for discussion boards. So this policy impacts both excused and unexcused late work. |

Out of Class Work: Homework is assigned every day in this course – out of the book, online and in handouts.

Homework out of the Textbook will be assigned and collected. It will be graded on completion and correctness. Usually, I will pick 2-4 problems randomly to grade for correctness.

All work that is turned in should have your name, an appropriate title, and be stapled separately. See Introductory video for instructions. Failure to do this will result in a zero grade on assignments

Students in the past have expressed concerns that they are not receiving enough credit for doing their homework since not all of it is graded. Math is a lot like music in the sense that it takes a significant amount of practice to master the concepts. The credit you receive for this work is that you are well prepared for exams.

There will be other homework that is assigned and collected. All assignments are posted to our Blackboard shell, with about a week's advanced notice of the due date

No late work is accepted. Four homework grades are dropped to account for being late to class, sickness, technical difficulty, or anything else that may come up.

Geometry Project   Over the second half of the semester, you will create a project of your choice which demonstrates all important geometry vocabulary and formulas. This project is open to your own interpretation, but you will receive feedback from the instructor about the quality and appropriateness of your work as you are putting it together, and are expected to make edits as needed.

From the projects, I expect:
- **Creativity** (we're trying to move away from book-like pictures). Think of something a kid would enjoy looking at or enjoy creating.
- Your project should bring **meaning and life** to the detailed vocabulary. You, I and your classmates should find your approach interesting and engaging.
- Your work should have a **consistency** to it, and at the end of the semester be a finished product.
- The project should contain **well-labeled diagrams** with **precise** vocabulary that will be outlined in class. You may use written definition as needed for clarity.
- Projects will be collected at various points in the semester for grading, and you are expected to keep up with the work.

Tests & Final Exam: There is 1 midterm exam, and one comprehensive final exam.

The first exam is scheduled to be taken on 3/17 – 3/21. I reserve the right to change exam dates as the semester progresses.

The final exam is 5/8 – 5/12 There are no make-ups for the Final Exam.

Exams will be taken in the testing center (Exploratory Hall 4107), and you can take them at any point during the day of the exam. See the testing center page for hours of operation (http://math.gmu.edu/placement_test.php). This is to allow you to have unlimited time on exams.

Requirements and Grading:

Midterm	25%
Out of Class and In Class Work	20%
Collaboration	10%
Statistics Project and Writeup	5%
Geometry Project	15%
Final Exam	25%

Scale:

100-90	A
89-80	B
79-70	C
69-60	D

59-0   F
+/- will be based
on grade distribution

Withdraw & Audit	See the GMU website for important add/drop deadlines: http://registrar.gmu.edu/calendars/2014spring/
Academic dishonesty and the GMU Honor Code:	You are expected to follow the GMU Honor Code *http://academicintegrity.gmu.edu/honorcode/* 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. You are expected to be a full contributing member of your group. **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 or books during an assessment • Providing or receiving a copy of a quiz or exam used in the course • Use of a cell phone during an assessment • Copying answers to homework out of the back of the book.
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.

MATH-272-002 – Mathematics for the Elementary School II (3 credits)
Spring 2020
Schedule is tentative and subject to change.

	Date	Topic	Due Date
1	1/27	Lesson 1: Algebra (Section 1.3) Lesson 2: Functions (Section 2.2)	
2	2/3	Lesson 3: Linear Functions (Section 2.2), Statistics Vocabulary (Section 7.1) Lesson 4: Data manipulations, (Section 7.1)	Lesson 1 and 2 Homework Assignments Due
3	2/10	Lesson 5: Statistics Project Lesson 6: Central Tendency Variation (Section 7.2)	Lesson 3 and 4 Assignments Due

4	2/17	Lesson 7: Variation (Section 7.2)
		        Normal Curve (Section 7.2)
		 Lesson 8: Sampling (Section 7.3)
		        Single-Stage Experimental and Theoretical probability (Section 8.1)
			Lesson 5 and 6 Assignments Due

5	2/24	Lesson 9: Statistics Project Presentation Lesson 10: Counting, Permutations and Combinations (Section 8.2)	Lesson 7 and 8 Assignments Due
6	3/2	Lesson 11: Poker and Probability (Section 8.2) Lesson 12: Multistage Probability, Horse Racing and Expected Value (Section 8.2) Begin thinking about geometry projects	Lesson 9 and 10 Assignments Due
		Spring Break	
7	3/16	Lesson 13: REVIEW (1/2 class) **Unit 1 Exam Take 3/17 – 3/21 anytime in Testing Center (untimed)**	Lesson 11 and 12 assignments due when you take the exam
8	3/30	Lesson 14: Scientific Notation and Measurement (Section 6.3) Plane geometry - some basic vocabulary (Section 9.1) Lesson 15: Square/Rectangles/Parallelogram – vocabulary (Section 9.1) PROJECT DAY	
9	4/6	Lesson 16: Square/Rectangle/Parallelogram (area and perimeter) (Section 10.2) Lesson 17: Triangles (vocabulary) (Section 9.1) PROJECT DAY	Lesson 14 and 15 Assignments Due
10	4/13	Lesson 18: Triangles (area and perimeter), Pythagorean Theorem (Section 10.2) Lesson 19: Polygons (vocabulary) (Section 9.1) Polygons (area and perimeter) (Section 10.2) PROJECT	Lesson 16 and 17 Assignments Due
11	4/20	Lesson 20: Circles (vocabulary) – outside of class (Section 9.1) Circles (area and perimeter) (Section 10.2) Lesson 21: Ratios, Congruence and Similarity (Sections 11.1 and 11.2)	Lesson 18 and 19 Assignments Due
12	4/27	Lesson 22: Symmetry (Section 9.4) Lesson 23: 3D Solids – vocabulary (Section 9.3)	Lesson 20 and 21 Assignments Due
13	5/4	Lesson 24: 3D solids, Surface Area (Section 10.3) Lesson 25: 3D solids, Volume (Section 10.3)	Lesson 22 and 23 Assignments Due
14	5/11	Lesson 26: Final Project display Review	Lessons 24 and 25 Assignments Due
	5/18	**May 18: Final exam due (online)**	