George Mason University
MATH-272-001 – Mathematics for the Elementary School II (3 credits)
Fall 2021

Instructors:	**Joanna Jauchen**
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Office Hours & Location:	Exploratory 4403 Friday 10 am – 11 am online Monday 4-6 pm online Also by appointment – if you want to meet me in-person, please just set up an appointment.
Instructor Policies:	1. Work in pencil, please. 2. 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:	Horizon 1011 T 10:30 am – 1:10 pm
Required Materials:	1. If you still have your book from 271, references to page numbers are usually from Mathematics for Elementary Teachers, A Conceptual Approach. 9th Edition. Bennett, Burton and Nelson. ISBN: 978-0-07-351957-9. If you don't have it, I provide most of the readings that we use via pdf online. 2. Large Ziploc bag of manipulatives – including blue base 10 blocks 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 big dry erase markers (not the little ones - 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.

Covid Information:

- All students taking courses with a face-to-face component are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (https://www2.gmu.edu/safe-return-campus). Similarly, all students in face-to-face and hybrid courses must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

- Students are required to follow Mason's current policy about facemask-wearing. As of August 11, 2021, all community members are required to wear a facemask in all indoor settings, including classrooms. An appropriate facemask must cover your nose and mouth at all times in our classroom. If this policy changes, you will be informed; however, students who prefer to wear masks either temporarily or consistently will always be welcome in the classroom.

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.

I know this semester is uncertain. If you are sick, I encourage you to stay home. Please prioritize your own well-being – I can email you the in-class work to work on.

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. They also contribute toward your collaboration grade.

Discussion Boards are due Monday by 11:59 pm, the night before class. These are mostly prep work for class.

There are no excused absences for discussion boards.

Out of Class Work:

Homework is assigned every week in this course.

Homework 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.

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.

All assignments are posted to our Blackboard shell, with about a week's advanced notice of the due date

Two weeks of homework assignments can be turned in up to a week late to account for sickness, technical difficulty, or anything else that may come up. All assignments are required to be turned in to Gradescope through Blackboard, and follow the instructions there. Deductions are taken for issues with formatting, so please pay attention to this early in the semester.

Homework is due the Saturday night by 11:59 pm following the class it was assigned.

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.

Summary Assignments:

There are two summarizing assignments in the course. These are opportunities for you to bring information together and give me a sense of what you have learned.

The first summary assignment is scheduled to be taken on 3/9 – 3/13. I reserve the right to change exam dates as the semester progresses, but we'll just talk about this.

The second is 4/27 – 5/4. There are no make-ups but also these are given over a period of time, so just talk to me if you are having trouble.

These are both graded on the extent to which you demonstrate understanding of the information presented in the course.

Requirements and Grading:

Summary Assignment 1	20%
Out of Class and In Class Work	20%
Discussion Boards	5%
Collaboration	10%
Statistics Project and Writeup	10%
Geometry Project	15%
Summary Assignment 2	20%

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/*

We collaborate in this course. I try to be clear about the boundaries for those collaborations. If I find you have gone outside of those, the sanctions I suggest to academic honesty are strict.

So, you are normally assigned collaborative partner(s) for assignments in this course. Outside of those partnerships, no collaboration is allowed on projects, the summary assignments or homework. Any indication that you have worked together outisde assigned groups, 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 outside your group during and about an assessment
- Copying material from another person from any assignment being graded (copying is very different from collaboration)
- 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
- Copying answers to homework out of the back of the book (there are so many wrong solutions in your textbook – don't do this).
- It is also considered cheating if you turn in an assignment in this course and did not fully participate and collaborate on all parts of the assignment. If you are expecting credit on an assignment, I expect that you understand what is being turned in.

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.

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Schedule is tentative and subject to change.

	Date	Topic	Due Date
1	8/24	Lesson 1: Algebra (Section 1.3) Lesson 2: Functions (Section 2.2)	Week 1 Prep work due 8/23 Week 1 Homework due 8/28
2	8/31	Lesson 3: Linear Functions (Section 2.2), Statistics Vocabulary (Section 7.1) Lesson 4: Data manipulations, (Section 7.1) Central Tendency (Section 7.2)	Week 2 Prep work due 8/30 Week 2 Homework due 9/4
3	9/7	Lesson 5: Statistics Project Lesson 6: Variation (Section 7.2) Normal Curve (Section 7.3) Begin thinking about geometry projects	Week 3 Prep work due 9/6 Week 3 Homework due 9/11
4	9/14	Lesson 7: Statistics Project Presentation Lesson 8: Sampling (Section 7.3) Single-Stage Experimental and Theoretical probability (Section 8.1)	Week 4 Prep work due 9/13 Week 4 Homework due 9/18
5	9/21	Lesson 9: Counting, Permutations and Combinations (Section 8.2) Lesson 10: Poker and Probability (Section 8.2)	Week 5 Prep work due 9/20 Week 5 Homework due 9/25
6	9/28	Lesson 11: Multistage Probability, Horse Racing and Expected Value (Section 8.2) Lesson 12: REVIEW	Week 6 Prep work due 9/27 Week 6 Homework due 10/2
7		**Lesson 13: Summary Assignment 1: 10/5 – 10/9**	Unit 1 Summary Due 10/9
	10/12	**No Class – Monday Classes meet on Tuesday this week**	
8	10/19	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)	Week 8 Prep work due 10/18 Week 8 Homework due 10/23
9	10/26	Lesson 16: Square/Rectangle/Parallelogram (area and perimeter) (Section 10.2) Lesson 17: Triangles (vocabulary) (Section 9.1)	Week 9 Prep work due 10/25 Week 9 Homework due 10/30
10	11/2	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)	Week 10 Prep work due 11/1 Week 10 Homework due 11/6
11	11/9	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)	Week 11 Prep work due 11/8 Week 11 Homework due 11/13
12	11/16	Lesson 22: Symmetry (Section 9.4) Lesson 23: 3D Solids – vocabulary (Section 9.3)	Week 12 Prep work due 11/15 Week 12 Homework due 11/20
	11/23	No class. Work on those projects!	
	11/25	Happy Thanksgiving!!!	
13	11/30	Lesson 24: 3D solids, Surface Area (Section 10.3) Lesson 25: 3D solids, Volume (Section 10.3) Lesson 26: Final Project display	Week 11 Prep work due 11/29 Week 11 Homework due 12/4
	12/11	**Dec 11: Summary Assignment 2 due (online)**	