

Mark Bollman→  
Palenske 226

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Office hours: MR 11–12, TF 1–2.

–Also by appointment. I’m around fairly often–feel free just to drop by.

Course description: Prerequisite: MATH 100 or placement evaluation at the MATH 120 level or higher.  
Priority given to students in the elementary education program. An investigation of mathematics (arithmetic, geometry, algebra, problem solving) for elementary school teachers. Topics are selected from: sets, relations and functions; numeration systems; whole numbers and their operations; number theory; rational numbers and fractions; decimals and real numbers; geometry and measurement; and probability and statistics. Emphasizes doing mathematics, using manipulatives, and developing intuition and problem-solving skills. Laboratory.

<b>Grading:</b>	Homework (Online and due twice weekly)	250 pts.
	In-class exercises	150 pts.
	Quizzes (Tuesdays and Fridays; see below)	150 pts.
	Hour-exams (April 2 & April 23)	200 pts.
	Projects (2 @ 50 pts. each)	100 pts.
	Final exam (Thursday, May 6, 1230-230 PM)	150 pts.
	<b>TOTAL.....</b>	<b>1000 pts.</b>

Percentage	Numerical grade	Percentage	Numerical grade
92-100%	4.0	72-78%	2.0
90-92%	3.7	70-72%	1.7
88-90%	3.3	68-70%	1.3
82-88%	3.0	60-68%	1.0
80-82%	2.7	0-60%	0.0
78-80%	2.3	This space intentionally left blank.	

In addition to meeting the numerical criteria above, students must earn a score of 55% or higher on the final exam (83 or more points out of 150) in order to receive a passing grade. If you earn fewer than 83 points on the final, you will receive a 0.0 for the course, regardless of your earlier performance. If you are taking this class CR/NC, this rule still applies. Additionally, students using the CR/NC option are reminded that a numerical grade of **2.0** is required to receive the CR grade. May 15 is the last day to alter your CR/NC status.

**Textbooks:** A Problem Solving Approach to Mathematics For Elementary Teachers, 13<sup>th</sup> edition, Billstein, Boschmans, Libeskind, & Lott, including online access to the MyMathLab homework system.

Mathematics Activities For Elementary School Teachers, 13<sup>th</sup> edition, Dolan, Williamson, & Muri.

Also required:

\* **Manipulative kit for the Dolan/Williamson/Muri book.** This should have been packaged with the book.

\* **A scientific or graphing calculator.** Any model is acceptable.

## Tentative Schedule Of Events

Week of (M)	Sections in BBL	Monday	Tuesday	Wednesday	Thursday	Friday
		In-Class Activities				
		Other news				
3/15	1.1-2.3	<del> </del>	<del> </del>	Chapter 1 Activities 2 & 3	Chapter 1 Acts. 6, 7, 9	Chapter 2 Acts. 1 & 2
3/22	3.1-3.5	Ch. 2, Act. 3 Ch. 3, Act. 1	Chapter 3 Acts. 3 & 4	Chapter 3 Activities 5 & 6	Chapter 3 Acts. 7,8,10	Chapter 4 Activities 1, 2
Project #1 due Wednesday 3/22.						
3/29	4.1-4.3 5.1-6.1	Chapter 4 Acts. 3 & 4	Ch. 4, Act. 6 Ch. 5, Act. 1	Chapter 5 Activities 2 & 4	Chapter 5 Acts. 5 & 6	EXAM #1 Ch. 1-5
4/5	6.2-7.2	Chapter 6 Acts. 1 & 2	Chapter 6 Acts. 3 & 7	<del>Wellness Day</del>	Chapter 6 Acts. 8 & 9	Chapter 7 Acts. 1 & 2
4/12	7.3-7.5 9.1-9.3	Chapter 7 Acts. 5, 6, 7	Chapter 7 Acts. 7-8	Chapter 8 Activities 1,4, 5	Chapter 9 Acts. 1 & 2	Chapter 9 Acts. 3 & 4
4/19	9.4-10.4	Flippos! Ch 9, Acts. 5 & 6	Ch. 9. Act. 7 Ch. 10, Act. 2	Chapter 10 Acts. 3 & 4	<del>EISRS</del>	EXAM #2 Chapters 6-9
4/26	11.1-4	Chapter 10 Acts. 5 & 6	Ch. 10, Act.7 Ch 11, Act. 1	Chapter 11 Activities 2 & 4	Chapter 11 Acts. 5 & 7	Ch. 11, Act. 8 Ch. 12, Act. 2
Project #2 due Monday 4/26.						
5/3	12.1-2	Chapter 12 Acts. 4 & 5	<del>Reading Day</del>	<b>Final Exam "Week"</b> <b>Final Exam: Thursday, 6 May, 1230-230 PM</b>		

## Thoughts At Large:

1. This course moves very rapidly, and those who miss class frequently will find themselves soon behind. Attendance is required (MTWRF 200-500 P.M., Palenske 225). If you need to miss class, please notify me either beforehand or within 24 hours afterward, in person, by phone, or via email. Your decision to take this course constitutes a decision to attend class every time it meets. (This works both ways, incidentally: My decision to teach this course is a commitment to offer class sessions worth attending. I am sure you will let me know if I'm not doing that.)

2. Most days will include an activity (anywhere from 30-90 minutes) intended to introduce a mathematical idea. These will typically be drawn from the Activities book, which can be thought of as a lab manual for this course.

In-class activities will contribute to your grade as follows: Prior to any discussion of the day's activities, a die of an appropriate number of sides will be rolled by a class volunteer. You will record your answer to the exercise indicated by the number rolled and submit it for grading.

3. 10-20 minutes of each class will be allotted for questions on the previous day's material, and the remainder of the time will be given over to new topics.

4. Quizzes will be given in class every **Tuesday** and **Friday**, and will cover the most recent material. Your lowest quiz score will be dropped at the end of the semester. Makeup quizzes will not be given—if you miss a quiz, that will be the one dropped.

5. Homework assignments will be made through the MyMathLab web site and will be due twice weekly, on **Tuesdays** and **Fridays** at 12:00:00 noon. Recommended practice problems are listed on page 5 of this syllabus, and instructions for registering for MyMathLab are on page 6. Late homework will not be accepted.

6. Hour-exams will be given on the dates indicated.

7. There will be no extra credit assignments in this course. Please don't ask.

8. Unless you are a cardiac surgeon, arms-control negotiator, or emergency medical technician, you do not need a cell phone that is turned on during class. Turn your phone off and put it away. If I see or *hear* your cell phone during class, you will receive a 2% deduction in your final grade, cumulative with each incident.

9. Laptop computers are allowed in class only with my preapproval, and then only for circumstances of documented need.

10. The academic dishonesty policy for this course will be that specified in the Student Handbook, with the following modification: The local penalty for confirmed cases of academic dishonesty will be a *double negative* grade on the assignment in question—that is, if that assignment is worth (for example) 50 points, your grade for that assignment will be -100 points. This applies equally to homework, quizzes, projects, and exams.

10. Everything submitted to a professor in writing, be it email, homework, or exam booklet, should follow the rules of (American) English grammar and spelling to the best of the writer's ability.

The following information is required by the College:

It is the policy of Albion College to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels that they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis, should contact Accessibility Services Director, Elizabeth Rudolph (erudolph@albion.edu), to develop a plan for reasonable accommodation(s) based on supporting documentation.

If you have completed this process and requested accommodations for this semester, plan to meet with Elizabeth Rudolph as early as possible to discuss a plan for implementing these modifications in this class. It is best to schedule this meeting at least

one week prior to their implementation.

Accessibility Services is housed in the Cutler Center on the first floor of the Stockwell Library and is open during regular business hours. The main phone is 517/629-0562 or email [cutler@albion.edu](mailto:cutler@albion.edu) for more information.

The Cutler Center is located in the Stockwell Library and provides free supplemental peer tutoring (math, science, economics and more), writing assistance, fellowship advising, accessibility accommodations, success coaching, supplemental advising, financial advising (including loaner laptops and calculators). The Cutler Center has student drop-in hours Monday-Friday noon-2pm with their 15 Minute Fix. The Cutler Center is also home to the First-Year Peer Mentor Program. To connect with the Cutler Center, please email [cutler@albion.edu](mailto:cutler@albion.edu) or call Martha Palmer at 517-629-0562 and she can help connect you to the resource you need to be successful this term.

This being the spring of 02021...Students must wear a face covering or mask at all times in classrooms and other indoor public spaces. A face covering or mask is also required in outside classroom spaces where physical distancing of at least six feet is compromised or difficult to maintain. These guidelines accord with the emergency order issued by the Michigan Department of Health and Human Services (MDHHS). Research clearly indicates that an infected person wearing a mask may reduce the likelihood of spreading the disease to others. Since a person infected with COVID-19 may not exhibit symptoms for several days, they may unknowingly spread the virus when interacting with others. Students with an ADA exemption that has been documented by a licensed healthcare provider and reviewed by Albion's Disability Services Office must live off campus and may only participate in classes designated as online or online-compatible. For more information, please see Albion's *Face Covering or Mask Guidelines for Students*.

**When all classes go online...** Math 104 is designated in the catalog as a laboratory class, which means that it will be one of the last, if not *the* last, courses to move online in the event of a Covid-19 upsurge. In the highly unlikely event that this course is forced to remote delivery, every attempt will be made to adhere to the schedule above. Notes and instructions will be posted daily to the course Web page, which will be set up at

[mathcs.albion.edu/~mbollman/M104/index.html](http://mathcs.albion.edu/~mbollman/M104/index.html).

Note that this is not the Albion Course Webs page. In that circumstance, quizzes and exams will be given online.

Merely completing the assigned online homework problems is almost certainly not going to be enough to prepare you for quizzes and exams. Toward that end, the following textbook problems are recommended to you as good practice for preparing for exams and as a guide to how well you're doing at mastering the course content.

<u>Section</u>	<u>Exercises</u>
1.1A	2,4,5,7,10,13,15
1.2A	1,4,5,7,10,11,14,16,19
2.1A	2,3,4,6,7,9,12,13,18,19
2.2A	3,4,6,7,10,12,14,17,18,19
2.3A	2,3,6,9,11,15,17,18,20,21,24,25
3.1A	5,7,8,11,12,14,17,21,25,29,30
3.2A	2,5,8,11,15,17,21,22,24,25,31,33,38
3.3A	3,4,5,6,11,13,16,17,20,21
3.4A	3,6,9,12,15,19,20,23,24,25,32
3.5A	1,4,7,9,11,14,17,20,21
4.1A	1,2,3,6,10,12,13,16,18
4.2A	1,4,7,8,10,13,16,19,21
4.3A	3,4,5,6,14,15,18
5-1A	3,6,9,12,15,18,21,24
5-2A	1,4,7,10,13,16,19,22,25,26,30
6-1A	2,5,8,11,14,17,20,23,26,29
6-2A	3,6,9,12,15,18,21
6-3A	2,5,8,11,14,17,20,23,26
6-4A	1,4,7,10,13,16,19,22,25,28
7-1A	3,6,7,9,12,13,17
7-2A	2,5,8,11,14,17,20,23,26,29,32,35
7-3A	1,4,7,10,13,16,19,22,25
7-4A	3,6,9,12,15,18,21,24,27,30,33,36,30
9-1A	1,2,5,7,9,12,14,16
9-2A	3,6,9,12,15,18,21,24
9-3A	1,4,7,10,13,16,17,19,22,24,27,30
9-4A	2,5,8,11,14,17,20,22
10-1A	3,7,8,9,11,14
10-2A	1,4,5,6,8,11,12,16
10-3A	3,5,6,8,12
10-4A	1,4,7,12,14,15,17,19,21,24
11-1A	2,4,7,8,9,11,15,18
11-2A	3,4,6,10,12,15,17
11-3A	1,5,7,10,13,15,21,23
11-4A	2,3,7,8,11,14,17

# MyLab & Mastering: Student Registration Instructions

To register for Mathematics 104: Mathematics for Elementary Teachers:

1. Go to <https://www.pearson.com/mylab>.
2. Under **Register**, select **Student**.
3. Confirm you have the information needed, then select **OK! Register now**.
4. Enter your instructor's course ID: **bollman70534**, and select **Continue**.
5. Enter your existing Pearson account username and password to Sign In. You have an account if you have ever used a MyLab or Mastering product.
  - » If you don't have an account, select **Create** and complete the required fields.
6. Select an access option.
  - » Enter the access code that came with your textbook or that you purchased separately from the bookstore.
  - » If available for your course,
    - Buy access using a credit card or PayPal.
    - Get temporary access.
7. From the You're Done! page, select **Go To My Courses**.
8. On the My Courses page, select the course name **Mathematics 104: Mathematics for Elementary Teachers** to start your work.

To sign in later:

1. Go to <https://www.pearson.com/mylab>.
2. Select **Sign In**.
3. Enter your Pearson account username and password, and select **Sign In**.
4. Select the course name **Mathematics 104: Mathematics for Elementary Teachers** to start your work.

To upgrade temporary access to full access:

1. Go to <https://www.pearson.com/mylab>.
2. Select **Sign In**.
3. Enter your Pearson account username and password, and select **Sign In**.
4. Select **Upgrade access** for Mathematics 104: Mathematics for Elementary Teachers.
5. Enter an access code or buy access with a credit card or PayPal.

Name (as you wish to be called): \_\_\_\_\_

Email address: \_\_\_\_\_@albion.edu

Major: \_\_\_\_\_

Hometown: \_\_\_\_\_

A couple of questions:

1. Why have you decided to pursue a career as an elementary school teacher? (*Two parts, really: Why teaching? and Why elementary school?*)

2. What grade or grades are you interested in eventually teaching?

3. What other college math courses have you taken (here or elsewhere)? If you have taken no other college mathematics courses, what was the last math class you took, and how many years (I'm looking for a *number* here) ago was that?

**Due date and time: Wednesday, 24 March 02021, 2:00:00 P.M. EDT.**

The first project, worth a total of 50 points, will be to describe your personal mathematical history in a short essay.

Your paper must be typed, double-spaced, and should run a minimum of five pages. **For the purposes of this course, “five pages” means that your essay should extend onto a sixth sheet of paper** (and similarly for “three pages”, “four pages”, and so on). A paper with four full pages of text and two words (or two sentences, for that matter) on the last page is a four-page paper. The pages should be stapled in the upper left corner. You should use a 12-point font and 1-inch margins on all four sides. Your paper must use proper punctuation and grammar. In addition to running a spell-checker, you should also proofread your paper carefully after printing it for errors that a spell-checker won't catch and make simple corrections in black ink. If there are more than *three* corrections necessary on a single page, correct them on the computer and reprint that page.

The paper is to be a description of some of your mathematical experiences from birth until today, *coupled with some reflection on how those experiences have influenced how you now think about mathematics*. In addition, you should consider how these experiences might affect you as you plan to teach elementary school.

The following questions may be useful in guiding your thinking—you need not answer all (or even any) of them. Despite this list of questions, your paper should be structured as an essay rather than as a collection of answers to questions.

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What topics in mathematics did you like, and which did you dislike? Why?  
Who were the people who played a positive role in your mathematical life? In what ways and why? Who played a negative role, and why?  
Describe your good mathematical experiences and the bad ones.  
What are your earliest memories of mathematics or numbers?  
What experience do you have working with calculators and computers?

Your elementary and middle school experiences:

Did mathematics come easily to you?  
Did you enjoy it?  
What were your favorite activities?  
What are your most memorable mathematical experiences from these grades?

Your high school and college experiences:

What were your courses in algebra, geometry, and precalculus like?  
If you have studied calculus or any math beyond calculus, what was that like?  
Did you have any “bad” years or courses?  
What gaps or weaknesses do you think you are bringing with you?  
What are your strengths?  
Did you like these courses?  
Did you have any unusual courses?  
How hard did you work?  
Did the material come easily or did you have to study a lot?



The following scoring guide will be used when I grade Project #1 (A Mathematical Autobiography). You may find this information useful as you prepare your essay.

Objective	Value	Description
Timeline	10 pts.	Does the essay adhere to the requirement that you describe your personal mathematical history through time, roughly in order?
Reflection	20 pts.	In addition to a description of what you've done mathematically, is there sufficient reflection on how those experiences have affected your current attitude toward mathematics?
The future	10 pts.	Have you taken your past experience and connected it to your future plans as an elementary school teacher?
Organization	5 pts.	Does the paper flow well? Is it properly structured as an essay and not as a list of answers to questions?
Mechanics	-15 to 5 pts.	<p>Is the essay cleanly written? Are there so many technical errors (spelling, grammar, etc.) that they interfere with your message? Does your grammar look like you completed high school? 8<sup>th</sup> grade?</p> <p><b>Scoring:</b> There will be a one-point deduction for each error up through 20—past that, I stop counting, although your “Organization” score may then be affected.</p>

