Course Syllabus

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TMath 171 Course Syllabus

- Winter Term 2025 (SLN 21650)
- Instructor: Ruth Vanderpool
  - Best method to contact: Class (when in-person) or Canvas Discussions (when remote)
  - Secondary contact method: email **rvanderp@uw.edu (mailto:rvanderp@u.washington.edu)**
  - Drop-In Office Hours:
    - Times: Tuesdays & Thursdays 11:30-12:30pm & by request
    - In person @ Teaching & Learning Center (TLC) 2nd floor of Snoqualmie building
    - Remote if requested at: **https://washington.zoom.us/my/rvanderp (https://washington.zoom.us/my/rvanderp)**

Class Time:

- Tuesday & Thursday 1:30pm-3:30pm
- Location:
  - In person: Joy 105
  - If remote: Zoom meeting linked on Canvas Calendar.

Required Items:

- Textbook, Mathematics for Elementary Teachers: A Conceptual Approach, 10th Edition, Bennett, Burton and Nelson
- system meeting the technology requirements posted in the Technology Info Module.
- (optional) non-internet accessing calculators or Desmos Test Mode on smart devices

Course Description:

This course is aimed at students planning to be elementary/middle school teachers, but any student interested in exploring essential mathematical concepts, skills, and representations in a humanized way may benefit. Topics include number, algebraic relationships, algorithms and why they work. We will also explore mathematical connections to our identities as math learners.

Course Objectives:

In this class we will focus on Chapters 1, 3, 4, 5 and 9 in your text book:
Problem Solving, Sets and Reasoning, Whole Numbers, Number Theory, Integers and Fractions, and Algebra

The work in this course will include learning and extending the mathematics you may have encountered before and through the lens of how school-aged children learn mathematics. For many activities and topics, you will be exploring the material from the perspective of learners. By the end of the course students should be able to:

- Make use of multiple number systems and the role of place value.
- Explain operations of addition, subtraction, multiplication, and division, and why they work.
- Identify relationship between relationship arithmetic, algebra, and use this to solve algebraic equations.
- Represent and solve linear, quadratic, and exponential functions
- Make connections between mathematical content and the teaching of mathematics.
- Apply mathematics to lived experiences and community-based contexts.
- Write about how people come to learn mathematics.

Opportunities for Mastery:

- All WrittenHW's can be turned in a second time to improve score.
- Discussion board responses improve WrittenHW averages.

- Lowest scoring project mark is dropped when computing average.
- Two-stage quiz structure allows for improving quiz scores immediately.

Expectations for the Instructor:

- Communicate with you through Canvas (discussion boards, announcements, posted grades), emails, online homework systems, and in-person during social hours & class.
- Provide a consistent course structure with regular feedback.
- Foster a space and environment for students to make mistakes & revise their thinking, get confused, speak, to be heard, and to grow as we learn about mathematics!

Expectations for the Student:

- Pay attention to announcements made and develop a processes to turn in work that meets the class's requirements.
- Be thoughtful and follow the communications/netiquette expectations so that we foster a supportive environment when interacting with each other.
- Be prepared for class and learn some math!

Tentative Schedule:

Upcoming due dates for assignments and exams are posted in the "Coming Up" section on the right side of your screen immediately after you log into Canvas. The due dates for the entire course are listed at the bottom of this Syllabus and can also be found on the Calendar link (in the purple menu on the left).

Note that the the schedule for the next week is also posted and discussed at the start of each class.

Evaluation/Grading:

Specific weights are:

Participation	5%
WrittenHW	25%
2-stage Quiz	15%
Projects	15%
Midterm	20%
Final	20%

The conversion from course percentage (p) to grade (g) on a 4. scale is given graphically by: **GradeConvert.pdf (https://uw.instructure.com/courses/1785093/files/127958743?wrap=1)**

or equivalently by the algebraic rule: $g(p) = \begin{cases} 4.0 & \text{if } 90 < p \\ .1x - 5 & \text{if } 57 \leq p \leq 90 \\ 0 & \text{if } p < 57 \end{cases}$

Participation:

Posting attempts/work/answers for problems from activity sheets in the classroom or contributing to a discussion focused on textbook content counts towards your participation marks. Opportunities for these are given most class days. You need to collect 5 of these throughout the term to get 100% for participation. Note, your contributions do not need to be correct or complete! Generally we learn more from attempts and mistakes than from correct work so please contribute whatever math thoughts you have!!

Written Homework:

One homework assignment is due every week on Wednesdays. Problems from each section covered in class are posted each day as well as on Canvas.

Handwritten assignments will be assigned to give you practice writing math before performing on a quiz and are due on Wednesdays. Note that unless otherwise stated, you should be writing your answers for a **4th grader.** That is, you are explaining the problem and the final answer is not nearly as critical as explaining the process! Assignments turn in during class on Tuesday will be marked and returned at the start of class on Thursday. Assignments turned in through Canvas may not be marked before the quiz. This policy is mostly the result of the difficulties I have marking assignments on Canvas

You are allowed and encouraged to work together on homework. In particular, the Canvas **WrittenHW Questions (extra credit) Discussion Board (https://uw.instructure.com/courses/1785093/discussion_topics/9345272)** is a great place to connect with your peers about the WrittenHW and get some help. Notice that if you answer a question that is posted, you can earn an extra credit mark towards your overall WrittenHW average (up to 100% for the category).

Each student is expected to turn in their own work. Your homework is expected to be written up neatly, clearly, and completely. Please make your final answer and its required supporting work, easy to find and identify. No partial credit is given on individual problems so carefully look through your answers and make sure they are well supported, explained, and written. No extensions are given for written homework.

REWRITE POLICY: After receiving your corrected homework you are given one week to turn in a rewrite that can earn full marks. You are responsible for finding and correcting your mistakes but consider consulting with your peers. I am available to help answer questions during social hours, but no additional class time will be dedicated to that homework assignment. Rewrites are to be written on a new sheet of paper and clearly marked as rewrites. Problems initially marked as incorrect must be rewritten correctly and the rewrite paper stapled on top of the original work.

If you have to submit a WrittenHW through Canvas, the recommended procedure is:

- write your homework solutions on normal paper clearly, with supporting work, and so that they are easily identifiable!
- take a photo of your work with a digital camera
- convert the (possibly) multiple photos into one PDF with an application (such as "Evernote Scannable", "CamScanner", "Scannable" or another free application!)
- upload the one PDF file to Canvas.

Projects:

There are two kinds of projects:

1) Teaching Questions/Classroom Connections: These will be periodically assigned and collected following the completion of the chapter. Thorough answers in complete sentences and in paragraph form are expected. For each question you must not only show understanding of the question and concepts, but must be able to communicate these effectively as you would to a colleague who is not familiar with your text.

2) Materials related to or from Liping Ma's book: These are typed reports related to Ma's **Knowing and Teaching Elementary Mathematics: Teachers' understanding of fundamental mathematics in China and the United States.** Presentation and grammar in addition to content are considered when assigning a grade.

Quiz Policy:

Quizzes are administered in a two-stage process on Thursdays during class after the homework question period.

In the first stage, students have 15 minutes to take the quiz without notes, books, internet resources, or collaboration.

The second stage gives students another 15 minutes to take the (same!) quiz, but now with open notes, open book, and collaboration with a student group. After 15 minutes, one copy of the completed quiz from the group is to be turned in.

The marks recorded for your quiz will be the higher of the two options:

1. the score from the individual stage-one of the quiz, or
2. the average of your individual stage-one quiz and the group completed stage-two quiz.

If the class (or instructor) needs to switch the class to a remote setting, there will be two additional 15 minute sessions between the stages so that student can convert their work into pdf's and turn them into Canvas. Group work will still occur through breakout rooms.

Exam Policy:

The dates of the exams are **Thursday Feb 6th** (midterm) & **Tuesday March 18th** (final)**.** Exams are to be done individually within the assigned class time while proctored either in the classroom. Explicitly this means books, internet tools and collaboration are not allowed for these exams. Each exam is allowed a specified amount of notes.

Make-up tests will only be given for absences deemed justifiable by the instructor (e.g., illness, family emergency), and may be considerably more difficult than the original test.

Communications/Netiquette:

This class is scheduled to be in-person but it is set up with some accommodations for folks who find that they cannot attend class. That means we have etiquette *and* netiquette guidelines!

Questions about the Class:

- When the instructor is not in the same room, if questions arise, please remember to check the following *before* emailing your instructor:

1. Canvas Home page: this lists different resources available depending on the type of question
2. Course Syllabus: introduces policies and expectations of the class organized by topic
3. Modules: Identifies what work should be done before class & provides the activity for the day.
4. Conversations in the appropriate Discussion Board: theme specific boards have been set up to help you find what you are looking for

- This policy will help you in potentially identifying answers before I can get back to you and it also helps me from answering similar questions or concerns multiple times. In fact, most emails sent to me will be posted on the FAQ: Technical or Course Related (with their answers) and then I'll direct you to look there for your answer.
- If your question is not related to the course material (content, deadlines, assignment requirements), but is of a personal nature (grade received, illness, missing your deadlines, struggles), please email me directly.

Social Expectations:

You are expected to work regularly with others in this class and thus need to make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

Netiquette:

- Students are entitled to receive instruction free from interference by other members of the class. If a student is disruptive, an instructor may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in withdrawal from the course. The instructor may withdraw a student from a course when the student's behavior disrupts the educational process.
- Appropriate online behavior is defined by the instructor. Course discussion messages should remain focused on the assigned discussion topics. Students must maintain a cordial atmosphere and use tact/professionalism in expressing differences of opinion.
- Inappropriate discussion board messages may be deleted if the instructor feels it is necessary. Students will be notified privately that their posting was inappropriate.

Email Policy:

I will respond to emails just as soon as I am able but I would encourage you to first post your questions to the pinned discussion boards as often times a peer will be able to help quicker than I! The University email policy used during normal operations is

posted at: (https://www.tacoma.uw.edu/it/uw-tacoma-email-policy (https://www.tacoma.uw.edu/it/uw-tacoma-email-policy))

Disclaimer:

While I have attempted to make this syllabus as complete as possible, adjustments will be made throughout the course. Announcements will be made during class and it is the responsibility of the student to keep updated if class is missed.

Academic Honesty:

Review Expectations, Policies, Consequences: (https://www.tacoma.uw.edu/registrar/academic-policies (https://www.tacoma.uw.edu/registrar/academic-policies))

Getting Help: (https://uw.instructure.com/courses/1785093/pages/getting-help-125)

(https://www.google.com/url?q=https://docs.google.com/document/d/1h-9ks1Rj1AswJswn4qgjn-veRxVH9WkAfS6Cu89JCHY/edit&sa=D&ust=1585007673675000) Many resources exist, are available, and are intended to help you with math, technology, and personal issues and questions. A few of the most helpful are listed: Getting Help (https://uw.instructure.com/courses/1785093/pages/getting-help-125) (https://uw.instructure.com/courses/1484552/pages/getting-help)

Tips for Success: (https://uw.instructure.com/courses/1785093/pages/tips-for-success-171)

A few, class-specific things to do that will help you get the most out of this class.

General Policies: (https://uw.instructure.com/courses/1785093/pages/general-policies-125)

(https://www.google.com/url?q=https://docs.google.com/document/d/1FjxC22UgjVM7JT_2e6DHKSpk5ZWdlEVUU34AJlhQMhY/edit&sa=D&ust=1585007673677000)
Campus-wide and class policies regarding inclement weather and emergency procedures are posted here (https://www.tacoma.uw.edu/faculty-assembly/required-suggested-syllabi-service-statements) and here (https://www.tacoma.uw.edu/digital-learning/e-syllabus) .

Course Summary:

Date	Details	Due
	Social Hour (https://uw.instructure.com/calendar?event_id=4031241&include_contexts=course_1785093)	11:30am to 12:30pm
Tue Jan 7, 2025	TMATH 171 A Au 24: Mathematics For Teachers I: Number Systems And Algebraic Concepts (https://uw.instructure.com/calendar?event_id=4031125&include_contexts=course_1785093)	1:30pm to 3:30pm
Thu Jan 9, 2025	Social Hour (https://uw.instructure.com/calendar?event_id=4031242&include_contexts=course_1785093)	11:30am to 12:30pm