

DEPARTMENT OF MATHEMATICS
COLLEGE OF THE SCIENCES
CENTRAL WASHINGTON UNIVERSITY

MATH 406 | Winter 2021

COURSE: MATH 406 – Algebra for Teachers

CRN: 12251

Section: 001

Day: MTWTH

Time: TBA

Room: Online

Materials:

- **Textbook-** *None*
- **Materials** – Students are required to have a graphing calculator for this class.
Homemade Manipulatives

Instructor Information:

Instructor: Dr. Janet Shiver
963-2109

Office Location: SAM 208

Phone: 509-

Office Hours: TBD

Email: janet.shiver@cwu.edu

Expectations:

Being successful in a mathematics class generally requires good study habits, hard work/patience while attempting problem sets, and proper time management during testing situations. Each student is expected to read the assigned sections of the text prior to class, to complete homework problems and other assignments in a timely manner, and to seek the assistance of the instructor or a tutor when difficulties are encountered. You are also highly encouraged to attend both of the live Zoom sessions each week.

Course Description:

This course will focus on the development of algebraic thinking. Content will include algebraic reasoning, solving equations and inequalities, identifying, extending and generalizing patterns, sequences and series, algebraic systems, functions, elementary models, algebraic modeling in geometry, polynomial algebra, the division and Euclidean algorithms, and modular arithmetic. Class activities will involve appropriate technology including manipulatives and initiate investigations of underlying mathematical structure in the exploration of algebraic concepts. You may be required to make (or purchase) your own manipulatives.

Objectives:

After successful completion of this course, students will:

- Use algebra to investigate, represent and solve problems
- Explore algebraic expressions, equations, inequalities and systems of equations/inequalities
- Use multiple representations of functional relationships including graphs, tables, expressions and models
- Analyze, extend and generalize (using both recursive and explicit forms) sequences
- Use and explain patterns of change in proportional, linear, inversely proportional, quadratic and exponential functions
- Apply set theory to the solution of algebraic problems

Grading: For final weighted averages falling in the following intervals, a student will earn at least the corresponding letter grade:

[90 - 92] A-	[93 - 100] A	
[80 - 82] B -	[83 - 86] B	[87 - 89] B+
[70 - 72] C -	[73 - 76] C	[77 - 79] C+
[60 - 62] D -	[63 - 66] D	[67 - 69] D+
Below 60 F		

Grades will be determined as follows:

- 15% Written assignments including homework
- 15% Activities
- 20% Weekly Quizzes
- 30% 3 written exams
- 20% *Cumulative final exam

*Students with a B – or higher by the end of the quarter may elect to not take the final exam and keep their current grade.

Missed Coursework/Late Assignments:

Any missed class activity, homework, quiz, or test will be recorded with a grade of zero. Late assignments will be accepted up to 24 hours after the due date and time with a 10% penalty and will not be accepted after 24 hours.

A missed test or quiz may not be made up without just cause. If you have a conflict or severe illness that requires you to miss a test, contact the instructor immediately to make other testing arrangements. Arrangements should be made as soon as you know there is a conflict or, in the case of illness, by the scheduled test date. Documentation must be provided in order to make alternate arrangements.

Academic Honesty:

The integrity of students and their oral and written work is a critical component of the academic process. All written work submitted in this course will be individual work unless otherwise directed by the instructor. Students must properly document all outside sources used for class assignments. The submission of another's work as one's own is plagiarism, and will be dealt with using the procedures outlined in the CWU Catalog. Consult university policies (CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC106-125-020) for student conduct, cheating, plagiarism, and other academic expectations.

Request for Disability Modifications:

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Center for Disability Services as soon as possible so we can discuss how the approved adjustments will be implemented in class. Students without this form should contact the Center for Disability Services, Hogue 126 or ds@cwu.edu or 509-963-2214.

Expectations for Student Conduct:

Students in this class are expected to interact with students and the professor professionally. Instances of disruptive conduct, obstructive conduct, or harassment will be referred to the Dean of Student Success.

Course Outline: Modification of this schedule will be made at the discretion of the instructor.

Announcements on the class web page will supersede this schedule.

Week of	Class Outline	Notes:
January 4	Syllabus, Set Theory	

January 11	Set Theory, Number Systems	Quiz 1
January 18	Number Systems	Quiz 2
January 25	Polynomial Algebra	Test 1
February 1	Polynomial Algebra	Quiz 3
February 8	Polynomial Algebra	Quiz 4
February 15	Polynomial Algebra	Test 2
February 22	Functions and Modeling	Quiz 5
March 1	Functions and Modeling	Quiz 6
March 8	Functions and Modeling	Test 3
March 18	FINAL EXAM	2 hour exam must be completed by 11:59

Tips for Success

- **Prepare for each class.** A COLLEGE LEVEL MATH COURSE MOVES AT A FAST PACE. New topics are introduced and discussed in the notes and during the Tuesday Zoom meeting. I expect you to work daily on mastering the material. Too often students believe that the homework, assessments and reading for their math courses can wait until the weekend. This is a losing strategy.
- **Set aside ample time EVERY day** to spend on your math class. College instructors expect students to spend an average of 2 hours daily on the course. Some topics will be harder to grasp than others so you will need to start on Monday and spend time daily to ensure understanding.
- **If you do not understand a topic,** get help immediately! Getting assistance early is important. Attending the Zoom meetings on Tuesday and Thursday is an easy way to get help. You can also email your instructor with questions any time you have a question. Questions will be answered within 24 hours during the work week. You are also encouraged to use the online free tutors.
- **Form a Zoom study group** with other students from our class. Study groups can foster a greater understanding of the material and a sense of confidence.