




MA 305-01-1: Math for Elementary Teachers II
School of Education & Behavioral Sciences
[Chaminade University Honolulu](https://www.chaminade.edu/)
Spring 2023 / 3 Credits
Monday, Wednesday, & Friday 1:30 – 2:20 pm
Brogan Hall 101

Instructor:	Dr. Travis Mukina	Office Location:	Brogan 132
Email:	travis.mukina@chaminade.edu	Office/Zoom Hours:	By Appointment
Cell Phone:	(814) 450-8134		

Learning Materials

- **Textbook (Required):** Liljedahl P. Zager T. & Wheeler L. (2021). *Building thinking classrooms in mathematics: 14 teaching practices for enhancing learning: grades k-12*. Corwin. ISBN-10: 1544374836
- **Textbook (Recommended):** Beckmann, Sybilla (2017). *Mathematics for Elementary Teachers with Activities*. 5th ed. Pearson. ISBN-10: 0134392795
- **GroupMe App:** A way to stay up-to-date with all class routines, assignments, and questions. 
- **Computer Folder/Google Drive/3-Ring Binder:** This should be comprised of provided guided notes lectures, class activities, problem-solving sets, and exams.

Additional Resources

- [The Math Learning Center - Virtual Math Manipulatives](#)

Course Catalog Description

This course provides prospective elementary education majors with a deeper and more comprehensive understanding of fundamental concepts underlying the mathematics taught in grades K through 8. This course focuses on the big ideas of geometry, measurement, data analysis, and probability and statistics. This course fulfills an upper division elective requirement in mathematics for Elementary Education majors. *Prerequisites:* MA 105

Course Overview

This is the second elementary math course to provide insight on different strategies to solve K - 8 mathematics problems conceptually and procedurally.

Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith
2. Provide an integral, quality education
3. Educate in family spirit
4. Educate for service, justice and peace
5. Educate for adaptation and change

Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the 'Ōlelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua ('Ōlelo No'eau 364) May I live by God
2. Provide an Integral, Quality Education (Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) Acquire skill and make it deep

3. Educate in Family Spirit ('Ohana) 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Ōlelo No'eau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) Education is the standing torch of wisdom
5. Educate for Adaptation and Change (Aina) 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) All knowledge is not taught in the same school

Program Learning Outcomes (PLOs)

1	Apply knowledge of learner development, learner differences, diverse students and the learning environment to optimize learning for Elementary students.
2	Describe central concepts, tools of inquiry and structures of the subject matter disciplines for Elementary students.
3	Utilize formative and summative assessments, to determine, select, and implement effective instructional strategies for Elementary students.
4	Analyze the history, values, commitments, and ethics of the teaching profession within the school community.
5	Explain the Marianist tradition of providing an integral, quality education within diverse learning communities.

Course Learning Outcomes (CLOs)

1	Students will be able to demonstrate and justify algebraic relationships, generalize patterns, measurable attributes of objects, and geometric relationships.
2	Students will be able to use problem-solving skills to investigate real-life mathematical situations, and communicate mathematical ideas with others verbally, numerically, symbolically, graphically, and/or geometrically.
3	Students will be able to explain the use of elementary classroom manipulatives to model algebraic thinking, and geometry.
4	Students will read for personal growth as educators and write to inform others about informational texts.

General Education Learning Outcomes

<ul style="list-style-type: none"> • Students will analyze and interpret quantitative data. • Students will define, identify, locate, evaluate, synthesize and present of demonstrate relevant information.

Alignment of Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4
Marianist Values	Provide an integral and quality education Educate for adaptation and change	Provide an integral and quality education Educate for adaptation and change	Provide an integral and quality education Educate for adaptation and change	Provide an integral and quality education Educate for adaptation and change
WASC Core Competencies	Written Communication Oral Communication Quantitative Reasoning Critical Thinking	Written Communication Oral Communication Quantitative Reasoning Critical Thinking	Oral Communication Quantitative Reasoning Critical Thinking	Written Communication
Program Outcomes	1, 2	1, 2	1, 2	1, 2, 4

Assessment

The assignments in this course are each designed to contribute in a different and significant way to your knowledge and experience relative to diagnosis and remediation of mathematics, and to teaching elementary mathematics. Always be prepared to effectively participate to class discussions, analyze the thinking of others in class, and clearly explain your thinking in most assignments. A scoring rubric is provided with every assignment to ensure you know what is required to receive the score desired. Feedback and grades on all assignments are provided within 7 days of submission.

1. Participation Assignments – 0% of Final Grade

Module 1: [1 point per assignment]

- There are two different assignments, both described on Canvas, which contribute to your overall participation in this course: an introductory post and joining our class GroupMe. Although these are not a contributing factor to your final grade, they are required to complete.

2. Problem-Solving Sets (PSS) – 30% of Final Grade

[CLO 1, 2, & 3]

Modules 1, 2, 3, 4, 6, 7, 8, 9: [10 points per set]

- Each chapter, you will complete five questions from each chapter's content. These questions will require detailed explanation of thought processes and mathematical drawings to show solutions.

3. Open Middle Problems (OMP) – 20% of Final Grade (10% Each)

[CLO 1, 2, & 3]

Modules 5 & 10: [25 points each]

- Both sets of open middle problems focus on content demonstrated in the guided notes and strategies used in your problem-solving sets. These are meant to be thought provoking and to provide you with a resource to use in your future classrooms.

4. Mathematical Approach Analyses (MAA) – 20% of Final Grade (10% Each)

[CLO 1]

Modules 5 & 10: [25 points each]

- You will observe, analyze, and reflect how five different people, not from this course, solve particular mathematics problems covered in selected chapters mentally and on paper with algorithms/diagrams.

5. Building Thinking Classrooms (BTC) in Mathematics Reflections – 20% of Final Grade

[CLO 4]

Module 1, 2, 3, 4, 6, 7, 8, 9: [5 points each]

- You will answer reflection questions based on what you read in the assigned chapters. This book by Peter Liljedahl is a game changer for all future mathematics educators.

6. Palolo Tutoring Reflections – 10% of Final Grade

[CLO 1, 2, 3]

Module 1, 2, 3, 4, 6, 7, 8, 9: [2 points each]

- After attending the after-school tutoring program offered at Palolo Elementary, you will reflect over the tutoring session.

Grading Scale	
90 – 100 %	A
80 – 89 %	B
70 – 79 %	C
60 – 69 %	D
0 – 59 %	F

- A** - Outstanding scholarship and an unusual degree of intellectual initiative
- B** - Superior work done in a consistent and intellectual manner
- C** - Average grade indicating a competent grasp of subject matter
- D** - Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
- F** - Failed to grasp the minimum subject matter; no credit given

Course Policies

Late Work Policy

This course is utilizing a Flex model, meaning there is a firm deadline for the Course Completion Schedule assignment, which is due by 11:59 pm on the 7th day of the month in which you started the course. If this assignment is late, you may be dropped from the class. All other assignments—with the exception of any assignments that your instructor notes as having a firm deadline—can be turned in at your convenience. Please refer to Self-Service to confirm when your course section ends, as all assignments are due before then.

Grades of "Incomplete"

This policy on incomplete grades aligns with the same University policies.

Writing Policy

For any writing assignments, please use APA format. Please refer to <https://apastyle.apa.org> for any specific style and grammar guidelines questions.

Instructor and Student Communication

Questions for this course can be emailed to the instructor at travis.mukina@chaminade.edu. Online and/or in-person meetings can be arranged. Response time will take place up to 24 hours.

Additional Services

Disability Access

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from Kōkua 'Ike: Center for Student Learning by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Kōkua 'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

Technical Assistance for Canvas Users

- Search for help on specific topics or get tips in [Canvas Students](#)
- [Live chat with Canvas Support for students](#)
- Canvas Support Hotline for students: +1-833-209-6111
- Watch this [video to get you started](#)
- [Online tutorials](#): click on "Students" role to access tutorials
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu or call (808) 735-4855

Tutoring and Writing Services

Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua 'Ike: Center for Student Learning in a variety of subjects (including, but are not limited to: biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua 'Ike's [website](#) for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. TutorMe can be accessed 24/7 from your Canvas account. Simply click Account – Notifications – TutorMe. For more information, please contact Kōkua 'Ike at tutoring@chaminade.edu or 808-739-8305.

Chaminade University Policies

Student Conduct Policy

Campus life is a unique situation requiring the full cooperation of each individual. For many, Chaminade is not only a school, but a home and a place of work as well. That makes it a community environment in which the

actions of one student may directly affect other students. Therefore, each person must exercise a high degree of responsibility. Any community must have standards of conduct and rules by which it operates. At Chaminade, these standards are outlined so as to reflect both the Catholic, Marianist values of the institution and to honor and respect students as responsible adults. All alleged violations of the community standards are handled through an established student conduct process, outlined in the Student Handbook, and operated within the guidelines set to honor both students' rights and campus values.

Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's jurisdiction from the time of their admission until their enrollment has been formally terminated. Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website under Student Life.

For further information, [please refer to the Chaminade Catalog](#).

Title IX Compliance

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Attendance Policy

Flex students are expected to asynchronously attend and submit course work in classes they are registered in. Student should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade.

Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu Tutor Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes.

Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

Credit Hour Policy

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in 45 hours of engagement.

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through several means, including (a) regular online instruction or interaction with the faculty member and fellow students and (b) academic engagement through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practica, studio work, and preparation of papers, presentations, or other forms of assessment. This policy is in accordance with federal regulations and regional accrediting agencies.

Course Schedule

Module # Dates	Module Content	Assignments
Module 1 Jan 9 th – 22 nd	<p style="text-align: center;">Chapter 9: Algebra</p> Section 9.1: Numerical Expressions Section 9.2: Expressions with Variables Section 9.3: Equations Section 9.4: Solving Algebra Word Problems with Strip Diagrams & Algebra Building Thinking Classrooms: Introduction & Chapter 1	<ul style="list-style-type: none"> ○ Introductory Post ○ GroupMe Registration ○ BTC Reflection #1 ○ Palolo Reflection #1
Module 2 Jan 23 rd – Feb 5 th	<p style="text-align: center;">Chapter 9: Algebra</p> Section 9.5: Sequences Section 9.6: Functions Section 9.7: Linear and Other Relationships Building Thinking Classrooms: Chapter 2 & Chapter 3	<ul style="list-style-type: none"> ○ PSS (Chap. 9) ○ BTC Reflection #2 ○ Palolo Reflection #2
Module 3 Feb 6 th – 12 th	<p style="text-align: center;">Chapter 10: Geometry</p> Section 10.1: Lines and Angles Section 10.3: Circles and Spheres Section 10.4: Triangles, Quadrilaterals, and Other Polygons Building Thinking Classrooms: Chapter 4 & Chapter 5	<ul style="list-style-type: none"> ○ PSS (Chap. 10) ○ BTC Reflection #3 ○ Palolo Reflection #3
Module 4 Feb 13 th – 26 th	<p style="text-align: center;">Chapter 11: Concepts of Measurement</p> Section 11.1: Concepts of Measurement Section 11.2: Length, Area, Volume, and Dimension Section 11.4: Converting from One Unit of Measurement to Another Building Thinking Classrooms: Chapter 6 & Chapter 7	<ul style="list-style-type: none"> ○ PSS (Chap. 11) ○ BTC Reflection #4 ○ Palolo Reflection #4
Module 5 Feb 27 th – Mar 5 th	<p style="text-align: center;">Work Week</p> Open Middle Problems (Chap. 9 – 11) Mathematical Approach Analysis (Chap. 9 – 11)	<ul style="list-style-type: none"> ○ OMP (Chap. 9 – 11) ○ MAA (Chap. 9 – 11)
Module 6 Mar 6 th – 19 th	<p style="text-align: center;">Chapter 12: Area of Shapes</p> Section 12.1: Areas of Rectangles Revisited Section 12.2: Moving and Additivity Principles About Area Section 12.3: Areas of Triangles Section 12.4: Areas of Parallelograms and other Polygons Building Thinking Classrooms: Chapter 8 & Chapter 9	<ul style="list-style-type: none"> ○ BTC Reflection #5 ○ Palolo Reflection #5
Module 7 Mar 27 th – Apr 9 th	<p style="text-align: center;">Chapter 12: Area of Shapes</p> Section 12.6: Area and Circumference of Circles and the Number Pi Section 12.8: Contrasting and Relating the Perimeter and Area of Shapes Section 12.9: Using the Moving and Additivity Principles to Prove the Pythagorean Theorem Building Thinking Classrooms: Chapter 10 & Chapter 11	<ul style="list-style-type: none"> ○ PSS (Chap. 12) ○ BTC Reflection #6 ○ Palolo Reflection #6
Module 8 Apr 10 th – 16 th	<p style="text-align: center;">Chapter 13: Solid Shapes and Their Volume and Surface Area</p> Section 13.1: Polyhedra and Other Solid Shapes Section 13.2: Patterns and Surface Area Section 13.3: Volumes of Solid Shapes Building Thinking Classrooms: Chapter 12 & Chapter 13	<ul style="list-style-type: none"> ○ PSS (Chap. 13) ○ BTC Reflection #7 ○ Palolo Reflection #7
Module 9 Apr 17 th – 23 rd	<p style="text-align: center;">Chapter 14: Geometry of Motion and Change</p> Section 14.1: Reflections, Translations, and Rotations Section 14.2: Symmetry Section 14.3: Congruence Section 14.5: Similarity Building Thinking Classrooms: Chapter 14 & Chapter 15	<ul style="list-style-type: none"> ○ PSS (Chap. 14) ○ BTC Reflection #8 ○ Palolo Reflection #8
Module 10 Apr 24 th – 30 th	<p style="text-align: center;">Work Week</p> Open Middle Problems (Chap. 12 – 14) Mathematical Approach Analysis (Chap. 12 – 14)	<ul style="list-style-type: none"> ○ OMP (Chap. 12 – 14) ○ MAA (Chap. 12 – 14)