



MA 305 - Math for Elementary Teachers II
School of Education & Behavioral Sciences
Spring 2020 / 3 Credits / Brogan 101
Monday, Wednesday, Friday 1:30 – 2:20pm

Instructor: Dr. Travis Mukina
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Office Hours: Brogan 132
Mon & Wed 2:30 – 3:30pm
Tues & Thurs 10:00 – 11:00am

Learning Materials:

- **Textbook:** Beckmann, Sybilla (2017). Mathematics for Elementary Teachers with Activities. 5th ed. Pearson. ISBN-13: 9780134392790
- **MyMathLab Online Homework:** Purchase access code directly on www.pearson.com/mylab
 - Course ID: **mukina88777**
- **3-Ring Binder:** Throughout the course, you should keep an organized collection of the course material. This is comprised of provided guided notes, MyMathLab online homework, chapter problem-solving sets, exam reviews, and exams. Completed versions of guided notes will be posted on Canvas under “Modules” after each lesson is complete.

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. Guided by NCTM Principles and Standards, 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

Mission Statement:

The mission of the education division is to foster the education of teachers and leaders in education through programs based in the liberal arts tradition, Catholic Marianist's values, current research, and best practices.

Marianist Values:

1. Educate 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

WASC Core Competencies:

1. Written Communication
2. Oral Communication
3. Quantitative reasoning
4. Critical Thinking
5. Information Literacy

Program Learning Outcomes (PLOs):

1	<i>Content Knowledge</i> (Knowledge of subject matter)
2	<i>Developmentally Appropriate Practice</i> (Knowledge of how students develop and learn, and engagement of students in developmentally appropriate experiences that support learning)
3	<i>Pedagogical Content Knowledge</i> (Knowledge of how to teach subject matter to students and application of a variety of instructional strategies that are rigorous, differentiated, focused on the active involvement of the learner)

4	<i>Educational Technology</i> (Knowledge of and application of appropriate technology for student learning)
5	<i>Assessment for Learning</i> (Knowledge of and use of appropriate assessment strategies that enhance the knowledge of learners and their responsibility for their own learning)
6	<i>Diversity</i> (Skills for adapting learning activities for individual differences and the needs of diverse learners and for maintaining safe positive, caring, and inclusive learning environments)
7	<i>Focus on Student Learning</i> (Skills in the planning and design of meaningful learning activities that support and have positive impact on student learning based upon knowledge of subject matter, students, the community, curriculum standards, and integration of appropriate technology)
8	<i>Professional & Ethical Dispositions and Communication</i> (Professional dispositions, professionalism in teaching, and ethical standards of conduct consistent with Marianist values, and positive and constructive relationships with parents, the school community and professional colleagues).

Course Learning Outcomes (CLOs):

1	Know, understand, and use the major concepts and procedures that define algebra, geometry, measurement, and data analysis and probability.
2	Engage in problem-solving, reasoning and proof, communications, connections, and representation.
3	Demonstrate and appreciation for mathematics as a body of knowledge that is interesting and useful.
4	Use a variety of manipulatives, calculators, computer programs, and other appropriate technology to investigate and explain mathematics.

Assessment:

Dates noted on the course schedule are tentative. Always be prepared to effectively participate to class discussions, analyze the thinking of others in class, and explain your thinking in every assignment. The assignments described below 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. It will be your responsibility to turn in all assignments on time. Late MyMathLab assignments will not be re-opened or accepted.

1. Attendance / Class Participation – 10% of Final Grade

Due: Ongoing evaluation by instructor throughout the semester

Your attendance, promptness, attention, cooperation, and active participation are necessary to facilitate this course. If you are unable to attend class, it is your responsibility to notify your instructor before the start of class and find out from a classmate what you missed during class. It is your instructor's responsibility to challenge you to grow as a professional and to help you develop a professional disposition. However, you also have a responsibility to be in class every day, to be responsive, and participate fully in all class activities. It is important that you listen to the ideas of others and respect their thoughts. Your grade will be determined based a holistic evaluation of your professionalism and participation in the following ways:

- Attendance
- Active Participation in Whole Class and Small Group Discussions

2. MyMathLab Online Homework – 15% of Final Grade

Due: Throughout the semester

10 points per section

Homework will be assigned after each class online through the MyMathLab website. All homework assignments for each section are due by *midnight* of the *next* day of class. This homework is intended to review the content of the mathematics, not to explain your thought process. Extensions will not be granted unless extreme circumstances take place. Some days, there will be time at the beginning of class to ask homework questions before they are due that night.

3. Problem-Solving Sets – 15% of Final Grade

Due: After the Completion of Every Chapter

20 points per set

Each chapter, you will be required to complete approximately five questions from each chapter's lessons. These questions will require detailed explanation of thought processes and mathematical drawings to show ideas. Please understand that simply "getting the problem correct" is not enough to earn full-credit for the question. An organized, hand-written, thoughtful explanation of your solution is usually required.

4. Exams – 60% of Final Grade (20% Each)

Exam 1: February 7th Exam 2: March 20th Exam 3: May 1st

50 points each

All exams will focus on content demonstrated in the homework along with problem-solving discussions that occur in class in your problem-solving sets. There is no "cumulative" final exam. Each exam will cover specific content from previous weeks.

Assignments	Percentage of Final Grade
<i>Attendance / Class Participation</i>	10%
<i>MyMathLab Online Homework</i>	15%
<i>Problem-Solving Sets</i>	15%
<i>Exam 1</i>	20%
<i>Exam 2</i>	20%
<i>Exam 3</i>	20%

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

Kokua Ike Tutoring Center:

Kokua Ike provides access to free one-on-one tutoring for undergraduate students. The tutoring services are designed to guide students to the point at which they become independent learners, no longer needing a tutor. Subjects tutored include, but are not limited to: Biology, Mathematics, Nursing, English, etc. The tutoring center consists of trained Peer and Professional Tutors.

- In order to receive tutoring, a student must visit the Student Support Services building and complete a brief contract prior to receiving services.
- After submitting the form, a staff member will assist you in creating an online account that allows you to book an appointment through the online system.
- Hours of Operation: Monday – Friday 8:30am – 4:30pm
- Want to become a tutor? Ask me how!

Course Attendance Policy:

As stated in the Chaminade University Catalog, students are expected to attend all classes for

courses in which they are registered. Students must follow the attendance policy as stipulated in the syllabus of Education Division courses. Penalties for not meeting the attendance requirements may result in lowering of the grade, withdrawal from the course, or failing the course.

1. Excused Absences.

1.1. Since it is expected that students will participate in all class sessions, excused absences are only granted in exceptional situations where evidence is provided by the student to the instructor. Examples would include illness (with verification by a doctor) or the death of a close family member. Students should notify their instructors when a situation prevents them from attending class and make arrangements to complete missed assignments. *While notification of the instructor by a student that he/she will be absent is courteous, it does not necessarily mean the absence will be excused.*

1.2. In cases where excused absences constitute a significant portion of a course's meetings (e.g., more than 20% of on-ground course meetings, or a significant portion of online or hybrid courses), the instructor should refer the case to the Dean with a recommendation on how the case should be handled (e.g., withdrawal or incomplete).

2. Unexcused Absences. Chaminade University policy states that in cases where unexcused absences are equivalent to more than a week of classes the instructor has the option of lowering the grade. In the Education Division, we have added detailed guidelines to cover different types of courses and class schedules:

2.1. On-Ground courses: Missing more than 2 weeks of class (6 classes) will result in an automatic lowering of one letter grade after final grade is calculated.

2.2. Online courses and online portion of hybrid courses: The instructor will specify and enforce expectations for online participation and receipt of assignments appropriate to the design of the course. For online/hybrid courses failure to log in for one week is equivalent to an absence in a traditional on-ground course. Two weeks of not logging in constitutes grounds for removal of the student from the course.

3. Additional Notes.

3.1. If a student does not logon to an online or hybrid course for the first two weeks, the instructor should notify the Dean and the student will be withdrawn from the course.

3.2. Any student who stops attending an on-ground course or stops participating in an online course without officially withdrawing may receive a failing grade.

University Policies

Academic Honesty Statement: Violations of the Honor Code are serious. They harm other students, your professor, and the integrity of the University. Alleged violations will be referred to the Office of Judicial Affairs. If found guilty of plagiarism, a student might receive a range of penalties, including failure of an assignment, failure of an assignment and withholding of the final course grade until a paper is turned in on the topic of plagiarism, failure of the course, or suspension from the University.

Violations of Academic Integrity: Violations of the principle include, but are not limited to:

- Cheating: Intentionally using or attempting to use unauthorized materials, information, notes, study aids, or other devices in any academic exercise.
- Fabrication and Falsification: Intentional and unauthorized alteration or invention of any information or citation in an academic exercise. Falsification is a matter of inventing or counterfeiting information for use in any academic exercise.
- Multiple Submissions: The submission of substantial portions of the same academic work for credit (including oral reports) more than once without authorization.

- Plagiarism: Intentionally or knowingly presenting the work of another as one's own (i.e., without proper acknowledgment of the source).
- Abuse of Academic Materials: Intentionally or knowingly destroying, stealing, or making inaccessible library or other academic resource materials.
- Complicity in Academic Dishonesty: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Plagiarism includes, but is not limited to:

- Copying or borrowing liberally from someone else's work without his/her knowledge or permission; or with his/her knowledge or permission and turning it in as your own work.
- Copying of someone else's exam or paper.
- Allowing someone to turn in your work as his or her own.
- Not providing adequate references for cited work.
- Copying and pasting large quotes or passages without properly citing them.

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. Should you want to speak to a confidential source you may contact the following:

- Chaminade Counseling Center: 808-735-4845
- Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.

Disability Access:

The University is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Disability Services. 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 the Counseling Center by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students.

Tentative Course Outline (Spring 2020)

*The professor reserves the right to make adjustments to this outline to better accommodate student needs.

Week # Date	Class Description	Assignments Due
Week 1 January 13 th	DR. MUKINA OFF-ISLAND	NO CLASS
Week 1 January 15 th	Introduction to Course & Syllabus Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 379 – 381 • <i>Section 9.1</i>: Numerical Expressions 	<ul style="list-style-type: none"> • Register for MyMathLab
Week 1 January 17 th	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 388 – 391 • <i>Section 9.2</i>: Expressions with Variables 	<ul style="list-style-type: none"> • MML - Section 9.1
Week 2 January 20 th	MARTIN LUTHER KING DAY	NO CLASS
Week 2 January 22 nd	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 396 – 401 • <i>Section 9.3</i>: Equations 	<ul style="list-style-type: none"> • MML - Section 9.2
Week 2 January 24 th	DR. MUKINA OFF-ISLAND	NO CLASS
Week 3 January 27 th	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 404 – 407 • <i>Section 9.4</i>: Solving Algebra Word Problems with Strip Diagrams and with Algebra 	<ul style="list-style-type: none"> • MML - Section 9.3
Week 3 January 29 th	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 413 – 420 • <i>Section 9.5</i>: Sequences 	<ul style="list-style-type: none"> • MML - Section 9.4
Week 3 January 31 st	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 426 – 429 • <i>Section 9.6</i>: Functions 	<ul style="list-style-type: none"> • MML - Section 9.5
Week 4 February 3 rd	Chapter 9: Algebra <ul style="list-style-type: none"> • Pages 436 – 340 • <i>Section 9.7</i>: Linear and Other Relationships 	<ul style="list-style-type: none"> • MML - Section 9.6
Week 4 February 5 th	<ul style="list-style-type: none"> • Review for Exam 1 	<ul style="list-style-type: none"> • MML - Section 9.7
Week 4 February 7 th	EXAM 1 (Chapter 9)	<ul style="list-style-type: none"> • Problem-Solving Set (Chapter 9)
Week 5 February 10 th	Chapter 10: Geometry <ul style="list-style-type: none"> • Pages 452 – 459 • <i>Section 10.1</i>: Lines and Angles 	

	Chapter 10: Geometry <ul style="list-style-type: none"> Pages 472 – 475 <i>Section 10.3</i>: Circles and Spheres 	
Week 5 February 12 th	DR. MUKINA OFF-ISLAND	NO CLASS
Week 5 February 14 th	Chapter 10: Geometry <ul style="list-style-type: none"> Pages 477 – 483 <i>Section 10.4</i>: Triangles, Quadrilaterals, and Other Polygons 	<ul style="list-style-type: none"> MML - Section 10.1 MML - Section 10.3
Week 6 February 17 th	PRESIDENTS' DAY	NO CLASS!
Week 6 February 19 th	Chapter 11: Measurement <ul style="list-style-type: none"> Pages 493 – 502 <i>Section 11.1</i>: Concepts of Measurement 	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 10) MML - Section 10.4
Week 6 February 21 st	Chapter 11: Measurement <ul style="list-style-type: none"> Pages 505 – 507 <i>Section 11.2</i>: Length, Area, Volume, and Dimension 	<ul style="list-style-type: none"> MML - Section 11.1
Week 7 February 24 th	Chapter 11: Measurement <ul style="list-style-type: none"> Pages 514 – 518 <i>Section 11.4</i>: Converting from One Unit of Measurement to Another 	<ul style="list-style-type: none"> MML - Section 11.2
Week 7 February 26 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 526 – 528 <i>Section 12.1</i>: Areas of Rectangles Revisited Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 530 – 532 <i>Section 12.2</i>: Moving and Additivity Principles About Area 	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 11) MML - Section 11.4
Week 7 February 28 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 535 – 538 <i>Section 12.3</i>: Areas of Triangles 	<ul style="list-style-type: none"> MML - Section 12.1 MML - Section 12.2
Week 8 March 2 nd	DR. MUKINA OFF-ISLAND	NO CLASS
Week 8 March 4 th	DR. MUKINA OFF-ISLAND	NO CLASS
Week 8 March 6 th	DR. MUKINA OFF-ISLAND	NO CLASS
Week 9 March 9 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 544 – 546 <i>Section 12.4</i>: Areas of Parallelograms and Other Polygons 	<ul style="list-style-type: none"> MML - Section 12.3

Week 9 March 11 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 554 – 557 <i>Section 12.6: Areas and Circumference of Circles and the Number Pi</i> 	<ul style="list-style-type: none"> MML - Section 12.4
Week 9 March 13 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 564 – 567 <i>Section 12.8: Contrasting and Relating the Perimeter and Area of Shapes</i> 	<ul style="list-style-type: none"> MML - Section 12.6
Week 10 March 16 th	Chapter 12: Area of Shapes <ul style="list-style-type: none"> Pages 570 – 572 <i>Section 12.9: Using the Moving and Additivity Principle to Prove the Pythagorean Theorem</i> 	<ul style="list-style-type: none"> MML - Section 12.8
Week 10 March 18 th	<ul style="list-style-type: none"> Review for Exam 2 	<ul style="list-style-type: none"> MML - Section 12.9
Week 10 March 20 th	EXAM 2 (Chapters 10, 11, & 12)	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 12)
March 23 rd	SPRING BREAK!	NO CLASS!
March 25 th	SPRING BREAK!	NO CLASS!
March 27 th	SPRING BREAK!	NO CLASS!
Week 11 March 30 th	Chapter 13: Solid Shapes and Their Volume and Surface Area <ul style="list-style-type: none"> Pages 581 – 586 <i>Section 13.1: Polyhedra and Other Solid Shapes</i> 	
Week 11 April 1 st	Chapter 13: Solid Shapes and Their Volume and Surface Area <ul style="list-style-type: none"> Page 589 – 590 <i>Section 13.2: Patterns and Surface Area</i> 	<ul style="list-style-type: none"> MML - Section 13.1
Week 11 April 3 rd	Chapter 13: Solid Shapes and Their Volume and Surface Area <ul style="list-style-type: none"> Pages 597 – 602 <i>Section 13.3: Volumes of Solid Shapes</i> 	<ul style="list-style-type: none"> MML - Section 13.2
Week 12 April 6 th	Chapter 14: Geometry of Motion and Change <ul style="list-style-type: none"> Page 613 – 615 <i>Section 14.1: Reflections, Translations, and Rotations</i> 	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 13) MML - Section 13.3
Week 12 April 8 th	Chapter 14: Geometry of Motion and Change <ul style="list-style-type: none"> Page 619 – 623 <i>Section 14.2: Symmetry</i> 	<ul style="list-style-type: none"> MML - Section 14.1

Week 12 April 10 th	GOOD FRIDAY	NO CLASS
Week 13 April 13 th	Chapter 14: Geometry of Motion and Change <ul style="list-style-type: none"> Page 627 – 633 <i>Section 14.3</i>: Congruence 	<ul style="list-style-type: none"> MML - Section 14.2
Week 13 April 15 th	Chapter 14: Geometry of Motion and Change <ul style="list-style-type: none"> Page 643 – 648 <i>Section 14.5</i>: Similarity 	<ul style="list-style-type: none"> MML - Section 14.3
Week 13 April 17 th	WORK DAY	
Week 14 April 20 th	Chapter 15: Statistics <ul style="list-style-type: none"> Page 674 – 678 <i>Section 15.1</i>: Formulating Statistical Questions, Gathering Data, and Using Samples 	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 14) MML - Section 14.5
Week 14 April 22 nd	Chapter 15: Statistics <ul style="list-style-type: none"> Page 681 – 690 <i>Section 15.2</i>: Displaying Data and Interpreting Data Displays 	<ul style="list-style-type: none"> MML - Section 15.1
Week 14 April 24 th	Chapter 15: Statistics <ul style="list-style-type: none"> Page 693 – 698 <i>Section 15.3</i>: The Center of Data: Mean, Median, and Mode 	<ul style="list-style-type: none"> MML - Section 15.2
Week 15 April 27 th	Chapter 15: Statistics <ul style="list-style-type: none"> Page 703 – 713 <i>Section 15.4</i>: Summarizing, Describing, and Comparing Data Distributions 	<ul style="list-style-type: none"> MML - Section 15.3
Week 15 April 29 th	<ul style="list-style-type: none"> Review for Exam 3 	<ul style="list-style-type: none"> MML - Section 15.4
Week 15 May 1 st	EXAM 3 (Chapters 13, 14, & 15)	<ul style="list-style-type: none"> Problem-Solving Set (Chapter 15)