



MA 105-01-1 – Math for Elementary Teachers I
School of Education & Behavioral Sciences
Fall 2019 / 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 1:00 – 2:00pm

Learning Materials:

- **Textbook:** Beckmann, Sybilla (2017). Mathematics for Elementary Teachers with Activities. 5th ed. Pearson. ISBN-10: 0134392795
- **MyMathLab Online Homework:** Purchase access code through bookstore or directly on www.pearson.com/mylab
 - Course ID: **mukina33148**
- **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:

Provides a foundation for prospective early childhood and elementary education majors with pre-K to 8 mathematics. Guided by NCTM Standards and through the study of concepts and properties of number systems; the four fundamental operations of arithmetic; the basic knowledge in data, the student will be able to undertake further study in mathematics education. Offered every semester. This course fulfills Track C general education requirement in mathematics for Early Childhood Education and Elementary Education majors.

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	Demonstrate mathematics content knowledge required for further study in mathematics education.
2	Use problem-solving skills to investigate real-life mathematical situations, formulate valid questions from problem situations, and represent situations verbally, numerically/symbolically, graphically, and/or geometrically.
3	Develop an appreciation for mathematics as a body of knowledge that is interesting and useful.

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 – 20% of Final Grade

Due: Throughout the semester

~ 5 - 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 – 30% of Final Grade

Due: After the Completion of Every Chapter

10 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 – 40% of Final Grade (20% Each)

Exam 1:

Exam 2:

100 points each

Both exams will focus on content demonstrated in the homework along with your guided notes and problem-solving sets. There is no "cumulative" final exam. Each exam will cover specific content from previous weeks. Calculators will not always be permitted.

Assignments	Percentage of Final Grade
<i>Attendance / Class Participation</i>	10%
<i>MyMathLab Online Homework</i>	20%
<i>Problem-Solving Sets</i>	30%
<i>Exam 1</i>	20%
<i>Exam 2</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.

Course Outline (Fall 2019)

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

Week # Date	Class Description	Assignments Due
Week 1 August 26 th	Introduction to Course & Syllabus	
Week 1 August 28 th	Chapter 1: Numbers and the Base-Ten System <ul style="list-style-type: none"> • Pages 1 – 11 • <i>Section 1.1</i>: The Counting Numbers 	
Week 1 August 30 th	MARIANIST FOUNDERS' DAY MASS	NO CLASS
Week 2 September 2 nd	LABOR DAY	NO CLASS
Week 2 September 4 th	Chapter 1: Numbers and the Base-Ten System <ul style="list-style-type: none"> • Pages 13 – 25 • <i>Section 1.2</i>: Decimals and Negative Numbers 	<ul style="list-style-type: none"> • MML Section 1.1
Week 2 September 6 th	Chapter 1: Numbers and the Base-Ten System <ul style="list-style-type: none"> • Pages 27 – 32 • <i>Section 1.3</i>: Reasoning to Compare Numbers in Base Ten 	<ul style="list-style-type: none"> • MML Section 1.2
Week 3 September 9 th	Chapter 1: Numbers and the Base-Ten System <ul style="list-style-type: none"> • Pages 34 – 37 • <i>Section 1.4</i>: Reasoning about Rounding 	<ul style="list-style-type: none"> • MML Section 1.3
Week 3 September 11 th	Chapter 2: Fractions and Problem-Solving <ul style="list-style-type: none"> • Pages 48 – 57 • <i>Section 2.2</i>: Defining and Reasoning About Fractions 	<ul style="list-style-type: none"> • MML Section 1.4 • Problem-Solving Set (Chap. 1) <p style="text-align: center;">NO CLASS</p>
Week 3 September 13 th	Chapter 2: Fractions and Problem-Solving <ul style="list-style-type: none"> • Pages 60 – 67 • <i>Section 2.3</i>: Reasoning About Equivalent Fractions 	<ul style="list-style-type: none"> • MML Section 2.2
Week 4 September 16 th	Chapter 2: Fractions and Problem-Solving <ul style="list-style-type: none"> • Pages 70 – 76 • <i>Section 2.4</i>: Reasoning to Compare Fractions 	<ul style="list-style-type: none"> • MML Section 2.3
Week 4 September 18 th	Chapter 2: Fractions and Problem-Solving <ul style="list-style-type: none"> • Pages 79 – 88 • <i>Section 2.5</i>: Reasoning About Percent 	<ul style="list-style-type: none"> • MML Section 2.4
Week 4 September 20 th	Chapter 3: Addition and Subtraction <ul style="list-style-type: none"> • Pages 92 – 101 • <i>Section 3.1</i>: Interpretations of Addition and Subtraction 	<ul style="list-style-type: none"> • MML Section 2.5 • Problem-Solving Set (Chap. 2)

Week 5 September 23 rd	Chapter 3: Addition and Subtraction <ul style="list-style-type: none"> Pages 102 – 112 <i>Section 3.2: The Commutative and Associative Properties of Addition, Mental Math, and Single-Digit Facts</i> 	<ul style="list-style-type: none"> MML Section 3.1
Week 5 September 25 th	Chapter 3: Addition and Subtraction <ul style="list-style-type: none"> Pages 114 – 120 <i>Section 3.3: Why the Standard Algorithms for Addition and Subtraction in Base Ten Work</i> 	<ul style="list-style-type: none"> MML Section 3.2
Week 5 September 27 th	Chapter 3: Addition and Subtraction <ul style="list-style-type: none"> Pages 123 – 131 <i>Section 3.4: Reasoning About Fraction Addition and Subtraction</i> 	<ul style="list-style-type: none"> MML Section 3.3
Week 6 September 30 th	Chapter 3: Addition and Subtraction <ul style="list-style-type: none"> Pages 134 – 139 <i>Section 3.5: Why We Add and Subtract with Negative Numbers the Way We Do</i> 	<ul style="list-style-type: none"> MML Section 3.4
Week 6 October 2 nd	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 142 – 148 <i>Section 4.1: Interpretations of Multiplication</i> 	<ul style="list-style-type: none"> MML Section 3.5 Problem-Solving Set (Chap. 3)
Week 6 October 4 th	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 149 – 151 <i>Section 4.2: Why Multiplying by 10 is Special in Base Ten</i> 	<ul style="list-style-type: none"> MML Section 4.1
Week 7 October 7 th	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 152 – 161 <i>Section 4.3: The Commutative and Associative Properties of Multiplication, Area of Rectangles, and Volumes of Boxes</i> 	<ul style="list-style-type: none"> MML Section 4.2
Week 7 October 9 th	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 166 – 173 <i>Section 4.4: The Distributive Property</i> 	<ul style="list-style-type: none"> MML Section 4.3
Week 7 October 11 th	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 175 – 181 <i>Section 4.5: Properties of Arithmetic, Mental Math, and Single-Digit Multiplication Facts</i> 	<ul style="list-style-type: none"> MML Section 4.4
Week 8 October 14 th	DISCOVERERS' DAY	NO CLASS
Week 8 October 16 th	Chapter 4: Multiplication <ul style="list-style-type: none"> Pages 185 – 190 <i>Section 4.6: Why the Standard Algorithm for Multiplying Whole Numbers Works</i> 	<ul style="list-style-type: none"> MML Section 4.5

Week 8 October 18 th	Review for Exam 1	<ul style="list-style-type: none"> MML Section 4.6
Week 9 October 21 st	EXAM 1 (Chapters 1, 2, 3, & 4)	<ul style="list-style-type: none"> Problem-Solving Set (Chap. 4)
Week 9 October 23 rd	Chapter 5: Multiplication of Fractions, Decimals, and Negative Numbers <ul style="list-style-type: none"> Pages 196 – 202 <i>Section 5.1: Making Sense of Fraction Multiplication</i> 	
Week 9 October 25 th	Chapter 5: Multiplication of Fractions, Decimals, and Negative Numbers <ul style="list-style-type: none"> Pages 205 – 209 <i>Section 5.2: Making Sense of Decimal Multiplication</i> 	<ul style="list-style-type: none"> MML Section 5.1
Week 10 October 28 th	Chapter 5: Multiplication of Fractions, Decimals, and Negative Numbers <ul style="list-style-type: none"> Pages 210 – 212 <i>Section 5.3: Extending Multiplication to Negative Numbers</i> 	<ul style="list-style-type: none"> MML Section 5.2
Week 10 October 30 th	Chapter 5: Multiplication of Fractions, Decimals, and Negative Numbers <ul style="list-style-type: none"> Pages 213 – 219 <i>Section 5.4: Powers and Scientific Notation</i> 	<ul style="list-style-type: none"> MML Section 5.3
Week 10 November 1 st	Chapter 6: Division <ul style="list-style-type: none"> Pages 222 – 230 <i>Section 6.1: Interpretations of Division</i> 	<ul style="list-style-type: none"> MML Section 5.4 Problem-Solving Set (Chap. 5)
Week 11 November 4 th	Chapter 6: Division <ul style="list-style-type: none"> Pages 231 – 237 <i>Section 6.2: Division and Fractions and Division with Remainders</i> 	<ul style="list-style-type: none"> MML Section 6.1
Week 11 November 6 th	Chapter 6: Division <ul style="list-style-type: none"> Pages 239 – 250 <i>Section 6.3: Why Division Algorithms Work</i> 	<ul style="list-style-type: none"> MML Section 6.2 <p style="text-align: center;">NO CLASS</p>
Week 11 November 8 th	Chapter 6: Division <ul style="list-style-type: none"> Pages 253 – 259 <i>Section 6.4: Fraction Division from the How-Many-Groups Perspective</i> 	<ul style="list-style-type: none"> MML Section 6.3
Week 12 November 11 th	VETERAN'S DAY	NO CLASS
Week 12 November 13 th	Chapter 6: Division <ul style="list-style-type: none"> Pages 261 – 268 <i>Section 6.5: Fraction Division from the How-Many-Units-in-1-Group Perspective</i> 	<ul style="list-style-type: none"> MML Section 6.4

Week 12 November 15 th	Chapter 6: Division <ul style="list-style-type: none"> Pages 270 – 276 <i>Section 6.6: Dividing Decimals</i> 	<ul style="list-style-type: none"> MML Section 6.5
Week 13 November 18 th	Chapter 7: Ratio and Proportional Relationships <ul style="list-style-type: none"> Pages 282 – 288 <i>Section 7.1: Motivating and Defining Ratio and Proportional Relationships</i> 	<ul style="list-style-type: none"> MML Section 6.6 Problem-Solving Set (Chap. 6)
Week 13 November 20 th	Chapter 7: Ratio and Proportional Relationships <ul style="list-style-type: none"> Pages 289 – 297 <i>Section 7.2: Solving Proportion Problems by Reasoning with Multiplication and Division</i> 	<ul style="list-style-type: none"> MML Section 7.1
Week 13 November 22 nd	Chapter 8: Number Theory <ul style="list-style-type: none"> Pages 337 – 340 & 341 – 344 <i>Section 8.1: Factors and Multiples</i> <i>Section 8.2: Even and Odd</i> 	<ul style="list-style-type: none"> MML Section 7.2 Problem-Solving Set (Chap. 7)
Week 14 November 25 th	Chapter 8: Number Theory <ul style="list-style-type: none"> Pages 345 – 348 <i>Section 8.3: Divisibility Tests</i> 	<ul style="list-style-type: none"> MML Section 8.1 MML Section 8.2
Week 14 November 27 th	Chapter 8: Number Theory <ul style="list-style-type: none"> Pages 350 – 355 & 356 – 361 <i>Section 8.4: Prime Numbers</i> <i>Section 8.5: Greatest Common Factor and Least Common Multiple</i> 	<ul style="list-style-type: none"> MML Section 8.3
Week 14 November 29 th	THANKSGIVING BREAK	NO CLASS
Week 15 December 2 nd	Chapter 8: Number Theory <ul style="list-style-type: none"> Pages 363 – 373 <i>Section 8.6: Rational and Irrational Numbers</i> 	<ul style="list-style-type: none"> MML Section 8.4 MML Section 8.5
Week 15 December 4 th	Review for Exam 2	<ul style="list-style-type: none"> MML Section 8.6
Week 15 December 6 th	EXAM 2 (Chapters 5, 6, 7, & 8)	<ul style="list-style-type: none"> Problem-Solving Set (Chap. 8)