MA 305 - Math for Elementary Teachers II
Spring 2019 / Brogan 101
3 credits
Monday, Wednesday, Friday 1:30 – 2:20pm

Instructor: Dr. Travis Mukina
Email: travis.mukina@chaminade.edu
Phone: 808.440.4250

Office Hours: Brogan 132
Mon & Wed 2:30 – 3:30pm
Tues & Thurs 10:00 – 11:00am
By Appointment

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: **mukina07415**
- **3-Ring Binder**: Throughout the course, you should keep a collection of the course material. This is comprised of chapter notes and problem-solving sets. Notes and problem-solving sets will be posted on Canvas under weekly "Modules" and should be kept in an organized binder.

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	*Content Knowledge* (Knowledge of subject matter)
2	*Developmentally Appropriate Practice* (Knowledge of how students develop and learn, and engagement of students in developmentally appropriate experiences that support learning)
3	*Pedagogical Content Knowledge* (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	*Educational Technology* (Knowledge of and application of appropriate technology for student learning)
5	*Assessment for Learning* (Knowledge of and use of appropriate assessment strategies that enhance the knowledge of learners and their responsibility for their own learning)
6	*Diversity* (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	*Focus on Student Learning* (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	*Professional & Ethical Dispositions and Communication* (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 are tentative. Read the textbook sections BEFORE class as indicated on the tentative schedule at the end of this syllabus. Always be prepared to contribute to discussion, explain your thinking, and analyze the thinking of others in class. 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 upper-elementary mathematics. It will be your responsibility to turn in all assignments on time. Late assignments will not be accepted. Submissions may vary from MyMathLab to turning hard copies in during class.

1. Attendance / Class Participation – 10% of Final Grade
Due: Ongoing evaluation by instructor throughout the semester
You are now well into your studies for your chosen career in teacher education. Your attendance, promptness, attention, cooperation, and active participation are necessary to facilitate this process. If you are unable to attend class, it is your responsibility to notify your instructor and to find out what you missed that day during class. Attitude and responsibility are also important aspects of professionalism. 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 Small Group Tasks
- Active Participation in Whole Class 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. 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 each chapter
20 points per set
Each chapter, you will be required to complete questions from that chapter's lessons. These questions will require detailed explanation of thought processes and mathematical drawings to show your ideas. The sets will be collected after the completion of each chapter. 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: Feb. 8th *Exam 2: March 22nd* *Exam 3: May 3rd*
100 points each
All three 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
Attendance / Class Participation	10%
MyMathLab Online Homework	15%
Problem-Solving Sets	15%
Exam 1	20%
Exam 2	20%
Exam 3	20%

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

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 accommodates. Please refer any questions to the Dean of Students.

Tentative Course Outline (Spring 2019)

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

Week # / Day # Date	Class Description	Assignments Due
Week 1 January 14th	Introduction to Course & Syllabus	
Week 1 January 16th	Chapter 9: Algebra • Pages 379 – 381 • *Section 9.1*: Numerical Expressions	• Register for MyMathLab
Week 1 January 18th	Chapter 9: Algebra • Pages 388 – 391 • *Section 9.2*: Expressions with Variables	• MML - Section 9.1
Week 2 January 21st	**MARTIN LUTHER KING DAY**	**NO CLASS**
Week 2 January 23rd	Chapter 9: Algebra • Pages 396 – 401 • *Section 9.3*: Equations	• MML - Section 9.2
Week 2 January 25th	Chapter 9: Algebra • Pages 404 – 407 • *Section 9.4*: Solving Algebra Word Problems with Strip Diagrams and with Algebra	• MML - Section 9.3
Week 3 January 28th	Chapter 9: Algebra • Pages 413 – 420 • *Section 9.5*: Sequences	• MML - Section 9.4
Week 3 January 30th	Chapter 9: Algebra • Pages 426 – 429 • *Section 9.6*: Functions	• MML - Section 9.5
Week 3 February 1st	Chapter 9: Algebra • Pages 436 – 340 • *Section 9.7*: Linear and Other Relationships	• MML - Section 9.6
Week 4 February 4th	• Review for Exam 1	• Problem-Solving Set (Chapter 9) • MML - Section 9.7
Week 4 February 6th	**DR. MUKINA OFF-ISLAND**	**NO CLASS**
Week 4 February 8th	**EXAM 1 (Chapter 9)**	
Week 5 February 11th	Chapter 10: Geometry • Pages 452 – 459 • *Section 10.1*: Lines and Angles	

Week 5 February 13th	Chapter 10: Geometry • Pages 472 – 475 • *Section 10.3*: Circles and Spheres	• MML - Section 10.1
Week 5 February 15th	Chapter 10: Geometry • Pages 477 – 483 • *Section 10.4*: Triangles, Quadrilaterals, and Other Polygons	• MML - Section 10.3
Week 6 February 18th	**PRESIDENTS' DAY**	**NO CLASS!**
Week 6 February 20th	Chapter 11: Measurement • Pages 493 – 502 • *Section 11.1*: Concepts of Measurement	• Problem-Solving Set (Chapter 10) • MML - Section 10.4
Week 6 February 22nd	Chapter 11: Measurement • Pages 505 – 507 • *Section 11.2*: Length, Area, Volume, and Dimension	• MML - Section 11.1
Week 7 February 25th	Chapter 11: Measurement • Pages 514 – 518 • *Section 11.4*: Converting from One Unit of Measurement to Another	• MML - Section 11.2
Week 7 February 27th	Chapter 12: Area of Shapes • Pages 526 – 528 • *Section 12.1*: Areas of Rectangles Revisited Chapter 12: Area of Shapes • Pages 530 – 532 • *Section 12.2*: Moving and Additivity Principles About Area	• Problem-Solving Set (Chapter 11) • MML - Section 11.4
Week 7 March 1st	**DR. MUKINA OFF-ISLAND**	**NO CLASS**
Week 8 March 4th	**DR. MUKINA OFF-ISLAND**	**NO CLASS**
Week 8 March 6th	Chapter 12: Area of Shapes • Pages 535 – 538 • *Section 12.3*: Areas of Triangles	• MML - Section 12.1 • MML - Section 12.2
Week 8 March 8th	Chapter 12: Area of Shapes • Pages 544 – 546 • *Section 12.4*: Areas of Parallelograms and Other Polygons	• MML - Section 12.3
Week 9 March 11th	Chapter 12: Area of Shapes • Pages 554 – 557 • *Section 12.6*: Areas and Circumference of Circles and the Number Pi	• MML - Section 12.4

Week 9 March 13th	**DR. MUKINA OFF-ISLAND**	**NO CLASS**
Week 9 March 15th	Chapter 12: Area of Shapes • Pages 564 – 567 • *Section 12.8*: Contrasting and Relating the Perimeter and Area of Shapes	• MML - Section 12.6
Week 10 March 18th	Chapter 12: Area of Shapes • Pages 570 – 572 • *Section 12.9*: Using the Moving and Additivity Principle to Prove the Pythagorean Theorem	• MML - Section 12.8
Week 10 March 20th	• Review for Exam 2	• Problem-Solving Set (Chapter 12) • MML - Section 12.9
Week 10 March 22nd	**EXAM 2 (Chapters 10, 11, & 12)**	
March 25th	**SPRING BREAK!**	**NO CLASS!**
March 27th	**SPRING BREAK!**	**NO CLASS!**
March 29th	**SPRING BREAK!**	**NO CLASS!**
Week 11 April 1st	Chapter 13: Solid Shapes and Their Volume and Surface Area • Pages 581 – 586 • *Section 13.1*: Polyhedra and Other Solid Shapes	
Week 11 April 3rd	Chapter 13: Solid Shapes and Their Volume and Surface Area • Page 589 – 590 • *Section 13.2*: Patterns and Surface Area	• MML - Section 13.1
Week 11 April 5th	Chapter 13: Solid Shapes and Their Volume and Surface Area • Pages 597 – 602 • *Section 13.3*: Volumes of Solid Shapes	• MML - Section 13.2
Week 12 April 8th	Chapter 14: Geometry of Motion and Change • Page 613 – 615 • *Section 14.1*: Reflections, Translations, and Rotations	• Problem-Solving Set (Chapter 13) • MML - Section 13.3
Week 12 April 10th	**DR. MUKINA OFF-ISLAND**	**NO CLASS**
Week 12 April 12th	Chapter 14: Geometry of Motion and Change • Page 619 – 623	• MML - Section 14.1

	• *Section 14.2*: Symmetry	
Week 13 April 15th	Chapter 14: Geometry of Motion and Change • Page 627 – 633 • *Section 14.3*: Congruence	• MML - Section 14.2
Week 13 April 17th	Chapter 14: Geometry of Motion and Change • Page 643 – 648 • *Section 14.5*: Similarity	• MML - Section 14.3
Week 13 April 19th	**GOOD FRIDAY**	**NO CLASS**
Week 14 April 22nd	Chapter 15: Statistics • Page 674 – 678 • *Section 15.1*: Formulating Statistical Questions, Gathering Data, and Using Samples	• Problem-Solving Set (Chapter 14) • MML - Section 14.5
Week 14 April 24th	Chapter 15: Statistics • Page 681 – 690 • *Section 15.2*: Displaying Data and Interpreting Data Displays	• MML - Section 15.1
Week 14 April 26th	Chapter 15: Statistics • Page 693 – 698 • *Section 15.3*: The Center of Data: Mean, Median, and Mode	• MML - Section 15.2
Week 15 April 29th	Chapter 15: Statistics • Page 703 – 713 • *Section 15.4*: Summarizing, Describing, and Comparing Data Distributions	• MML - Section 15.3
Week 15 May 1st	• Review for Exam 3	• Problem-Solving Set (Chapter 15) • MML - Section 15.4
Week 15 May 3rd	**EXAM 3 (Chapters 13, 14, & 15)**	