MA 105 - Math for Elementary Teachers I
Online PACE Winter 2018
3 credits

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Office Hours: MWF 12:00-1:30pm
TR 1:00-2:00pm
By Appointment
Office Location: Brogan 132

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: mukina30024
- **3-Ring Binder**: Throughout the course, you should keep a collection of the course material. This is comprised of chapter notes, chapter homework, and weekly problem-solving sets. Notes, problem discussions, and problem-solving sets will be posted on Canvas under weekly "Modules" and should be kept in an organized binder.
- **GroupMe App**: Reminders, updates, and changes about the course will be posted here. It may also be used to ask questions to classmates or the professor. Any personal questions or comments, please DM me or email me.

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	*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	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:
Since this course is online, the dates noted are permanent. Read the textbook sections BEFORE you turn in assignments as indicated on the tentative schedule at the end of this syllabus. Always be prepared to explain your thinking in every assignment and every exam. 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 assignments will not be accepted. Submissions will all be done electronically through Canvas in **PDF format**.

1. Attendance / Professionalism – 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. Important in the concept of professionalism is your concern with becoming the best teacher you can become. Your attendance, promptness, attention, cooperation, and active participation are necessary to facilitate this process. 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 responsive and participate fully in all activities. Your grade will be determined based a holistic evaluation of your professionalism and participation.

2. MyMathLab Online Homework – 20% of Final Grade
Due: Every Sunday by Midnight
10 points per section
Homework will be assigned each week online through MyMathLab. All homework assignments for each section are due every Sunday by *midnight* after each full week 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.

3. Problem Discussions – 10% of Final Grade
Due: Every Week on Canvas
10 points per problem
Each week, there will be a selected problem posted on Canvas from the material covered that week. You are required to post a solution, comments, questions, etc. about the selected problem. Discussion between you and your classmates is essential to becoming a better mathematical educator. Responses will be graded based on thoughtfulness towards the given problem, not correctness, confusion, or length. You must contribute thoughtfully to the discussion *at least* one time in order to receive full credit.

4. Problem-Solving Sets – 10% of Final Grade
Due: After Every 2 Chapters
10 points per set
Each chapter, you will be required to complete 5 questions from the week's lessons. These questions will require detailed explanation of thought processes and mathematical drawings to show ideas. The sets will be collected in two-chapter increments. 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.

5. Exams – 50% of Final Grade (25% Each)
Midterm Exam: Feb. 5^{th} – 6^{th} *Final Exam:* Feb. 19^{th} – 20^{th}
100 points each
Both exams will focus on content demonstrated in the homework along with your problem-solving sets. There is no "cumulative" final exam. Each exam will cover specific content from previous weeks. Exams will be emailed to you directly and must be completed and emailed back within 24 hours of receiving it. It is expected that you work individually on exams and do not receive help from anyone. You are *permitted* to use your notes, homework, discussion posts, and problem-solving sets to aid you with your exams.

Assignments	Percentage of Final Grade
Attendance / Professionalism	10%
MyMathLab Online Homework	20%
Problem Discussions	10%
Problem-Solving Sets	10%
Midterm Exam	25%
Final Exam	25%

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.

Course Outline (Winter)

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

Week # / Day # Date	Class Description	Assignments Due Each Sunday by Midnight
Week 1 Jan. 8th – 14th	Chapter 1: Numbers and the Base-Ten System • Pages 1 – 36 • *Section 1.1*: The Counting Numbers • *Section 1.2*: Decimals and Negative Numbers • *Section 1.3*: Comparing Numbers in Base-Ten • *Section 1.4*: Rounding Numbers	Jan. 14th • Sections 1.1 – 1.4 MyMathLab • Problem Discussion #1
Week 2 Jan. 15th – 21st	Chapter 2: Fractions and Problem-Solving • Pages 47 – 83 • *Section 2.2*: Defining and Reasoning About Fractions • *Section 2.3*: Equivalent Fractions • *Section 2.4*: Comparing Fractions • *Section 2.5*: Percent	Jan. 21st • Sections 2.2 – 2.5 MyMathLab • Problem Discussion #2 • Problem-Solving Sets 1 & 2
Week 3 Jan. 22nd – 28th	Chapter 3: Addition and Subtraction • Pages 91 – 135 • *Section 3.1*: Interpretations of Addition and Subtraction • *Section 3.2*: The Commutative and Associative Properties of Addition, Mental Math, and Single-Digit Facts • *Section 3.3*: Why the Standard Algorithms for Adding and Subtracting Numbers in Base-Ten System Work • *Section 3.4*: Adding and Subtracting Fractions • *Section 3.5*: Adding and Subtracting with Negative Numbers	Jan. 28th • Sections 3.1 – 3.5 MyMathLab • Problem Discussion #3
Week 4 Jan. 29th – Feb. 4th	Chapter 4: Multiplication • Pages 139 – 144 • *Section 4.1*: Interpretations of Multiplication • *Section 4.2*: Why Multiplying by 10 is Special in Base-Ten • *Section 4.3*: The Commutative and Associative Properties of Multiplication, Area of Rectangles, and Volumes of Boxes • *Section 4.4*: The Distributive Property • *Section 4.5*: Properties of Arithmetic, Mental Math, and Single-Digit Multiplication Facts • *Section 4.6*: Why Algorithms for Multiplying Whole Numbers Work	Feb. 4th • Sections 4.1 – 4.6 MyMathLab • Problem Discussion #4 • Problem-Solving Sets 3 & 4
MIDTERM EXAM	Chapters 1 – 4	• Emailed: Feb. 5th at 5pm • Due: Feb. 6th at 5pm
Week 5 Feb. 5th – 11th	Chapter 5: Multiplication of Fractions, Decimals, and Negative Numbers • Pages 194 – 214 • *Section 5.1*: Multiplying Fractions	Feb. 11th • Sections 5.1 – 5.4 MyMathLab • Problem Discussion #5

	• *Section 5.2*: Multiplying Decimals • *Section 5.3:* Multiplying Negative Numbers • *Section 5.4*: Powers and Scientific Notation	
Week 6 Feb. 12th – 18th	Chapter 6: Division • Pages 219 – 242 • *Section 6.1*: Interpretations of Division • *Section 6.2*: Division and Fractions and Division with Remainders • *Section 6.3*: Why Division Algorithms Work	Feb. 18th • Sections 6.1 – 6.3 MyMathLab • Problem Discussion #6
Week 7 Feb. 19th – 25th	Chapter 6: Division • Pages 249 – 269 • *Section 6.4*: Fraction Division from the "How Many Groups?" Perspective • *Section 6.5*: Fraction Division from the "How Many in One Group?" Perspective • *Section 6.6*: Dividing Decimals	Feb. 25th • Sections 6.4 – 6.6 MyMathLab • Problem Discussion #7 • Problem-Solving Sets 5 & 6
Week 8 Feb 26th – Mar. 4th	Chapter 7: Ratio and Proportional Relationships • Pages 275 – 287 • *Section 7.1*: Motivating and Defining Ratio and Proportional Relationships • *Section 7.2*: Solving Proportion Problems by Reasoning with Multiplication and Division	Mar. 4th • Sections 7.1 – 7.2 MyMathLab
Week 9 Mar. 5th – 11th	Chapter 8: Number Theory • Pages 316 – 327 • *Section 8.1*: Factors and Multiples • *Section 8.2*: Evens and Odds • *Section 8.3*: Divisibility Tests	Mar. 11th • Sections 8.1 – 8.3 MyMathLab
Week 10 Mar. 12th – 18th	Chapter 8: Number Theory • Pages 330 - 350 • *Section 8.4*: Prime Numbers • *Section 8.5*: Greatest Common Factor and Least Common Multiple • *Section 8.6*: Rational and Irrational Numbers	Mar 18th • Sections 8.4 – 8.6 MyMathLab • Problem Discussion #8 • Problem-Solving Sets 7 & 8
FINAL EXAM	Chapters 5 – 8	• Emailed: Mar. 19th at 5pm • Due: Mar. 20th at 5pm