ED 323-90-2 – Elementary Math Methods II
School of Education & Behavioral Sciences
Fall 2019 / 3 Credits
Online

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Mon & Wed 2:30 – 3:30pm
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Learning Materials:

- **Textbook**: J.A. Van DeWalle, K. Kary, J.M. Bay-Williams (2016). Elementary and Middle School Mathematics: Teaching Developmentally. 10th ed. Pearson. ISBN: 9780134802084
- **Common Core State Standards (CCSS)** for grades K – 6. Electronic copy available at:
  - http://www.corestandards.org/wp-content/uploads/Math_Standards1.pdf
- **3-Ring Binder**: Throughout the course, you should keep a collection of the course material. This is comprised of handouts, class activities, problem-solving sets, and exams. Completed versions of handouts and problem-solving sets will be posted on Canvas under "Modules" after each are completed in class, or are graded.
- Other readings and video links will be provided when necessary.

Course Catalog Description:
This course provides an overview and applications of best practice mathematics instructional approaches, strategies, techniques, and assessment methods. Math concepts for students in grades 3 through 6 are explored using hands-on and problem-solving approaches.
Required: 8 hours of O&P
Prerequisite: Pass Praxis I or 9 hours of math credit, ED 220, ED 221, ED 322

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 number and operations, algebra, geometry, measurement, and data analysis and probability.
2	Engage in problem solving, reasoning and proof, communication, connections, and representation.
3	Plan lessons that teach upper elementary students: 1. To understand and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. 2. To explore, conjecture and reason logically; to solve non-routine problems; to communicate about and through mathematics; and to connect ideas within and between mathematics and other intellectual activity.
4	Know what mathematical preconceptions, misconceptions, and error patterns to look for in upper elementary student work as a basis to improve understanding and construct appropriate learning experiences and assessments.
5	Know and are able to help students understand the history of mathematics and contributions of diverse cultures to that history.
6	Foster students' use of appropriate technology.

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. 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. Professionalism / Participation – 10% of Final Grade
Due: Ongoing evaluation by instructor throughout the semester
Important in the concept of professionalism is your concern with becoming the best teacher you can become. 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 and assignments on time. Your grade for this category will be determined based a holistic evaluation of your professionalism and participation.

2. Problem-Solving Sets – 20% of Final Grade
Due: After the Completion of Each Chapter on Sunday at Midnight
20 points each
Each week you will complete a series of mathematical problems using strategies that elementary level students might use to complete the mathematical tasks. The readings, videos, and presentations can be used to help you make sense of how to solve these problems and prepare you to teach these to students in the future. It is important that you are diligent in solving these each week to the best of your ability. The intention of these problems is to help you not only participate in class discussion, but to help you to deepen your own conceptual understanding of the mathematical concepts you may be teaching in the future. These will be submitted on Canvas in a **PDF format**.

3. Number Talks Discussions – 15% of Final Grade
Due: Randomly Throughout the Semester
5 points each
You will be required to watch a series of Number Talks videos in this course. Number Talks is a very informal, collaborative way to teach mathematics to an entire classroom. If you are unfamiliar with Number Talks, I hope you find the videos informative and see them as a powerful way to allow children to explain their thought processes about mathematics. For the Number Talk videos, you will be required to participate in an online post on Canvas. You will post comments and answer questions about the videos you observe. Reponses must be filled with thoughtfulness contributing the conversation, and responding to at least one other classmates' posts, in order to receive full credit.

4. Three-Act Fraction Task – 20% of Final Grade
Up to Act 1 Due: At the End of Week 6 *Full Version Due: At the End of Week 10*
100 points
You will design a three-act task that focuses on a content area of fractions. The task can involve any of the CCSS dealing with fractions. The task rubric and template are posted on Canvas, as well as more information about what a Three-Act Task consists of. You will be required to complete and submit Act 1 of your Three-Act Task by week 6 of the course, in order to receive feedback to complete the rest of the task effectively.

5. O&P Assignments – 20% of Final Grade
Due: Throughout the Semester on Canvas
20 points each
You will have five separate assignments to complete during your Observation & Participation time in the classroom you are assigned to this semester. Two of the assignments are simply submitting your email of official placement, and your completed time sheet when the semester is finished. The other three are true O&P assignments that take place in the classroom. These will be submitted on Canvas in a PDF format. Each of the three assignments will involve communication between yourself and your mentor teacher. Please ensure your mentor teacher that if they have questions about the assignments they can contact me at any time. A summary of each assignment is given below. More details about the assignments will be posted on Canvas.

a. *Placement Confirmation Email* – Submit a screenshot, or a saved file of the email from Kathleen confirming your placement in your particular school, grade level, and name of mentor teacher.
b. *Observation Reflection* – a general reflection will be made about which of the 8 Mathematical Practices took place in the mathematics classroom during hours 1 – 4 of your O&P.
c. *Small Group Reflection* – a mathematical task will be completed with a group of 2 – 3 children during hours 5 – 6 of your O&P, and a reflection will be made on the thinking of the students you work with.
d. *Teaching Reflection* – you will coordinate with your mentor teacher to teach a lesson to the

whole class during hours 7 – 8 of your O&P, and a reflection will be made on how the lesson turned out.

e. *Completed O&P Time Sheet* – Fill out the days and times you completed your hours. You and your mentor teacher sign must sign the bottom before submitting the completed time sheet.

6. Mathematical Teaching Philosophy – 15% of Final Grade

Due: At the End of Week 9

50 points

During the semester, you will begin developing your personal mathematics teaching philosophy. You are to include at least 2 references to support your philosophy. You will submit a written philosophy in APA format, no longer than 1 single-spaced page, which will answer the following questions:

a. If you were asked to describe "mathematics" to a parent, how would you respond? (Complete the statement, "To me, mathematics is…")
b. One goal we have for every child in our elementary classroom is that each child successfully learns mathematics. Can you share what it means for a child to successfully learn mathematics? (Complete the statement, "To me, learning mathematics requires…")
c. You have a picture of what mathematics is to you and what you think learning mathematics requires. What does it mean to be a "good mathematics teacher?" (Complete the statement, "To me, being a good mathematics teachers means…")
d. What factors do you feel will influence your teaching of mathematics?

Your philosophy will be graded on how well you support your statements with research of how children best learn mathematics, specific examples of your own observations, clear expectations of your own classroom, and the quality of your writing.

Assignments	Percentage of Final Grade
Professionalism / Participation	10%
Problem-Solving Sets	20%
Number Talks Discussions	15%
Three-Act Fraction Task	20%
O&P Assignments	20%
Mathematical Teaching Philosophy	15%

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

Course Outline (Winter 2020)

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

Week # Date	**Class Description**	**Assignments Due Dates (Due by Midnight)**
Week 1 January 6th – 12th	Book: *Chapter 14*: Developing Fraction Concepts (Meanings, Models, & Fractional Parts) • Pages 337 – 359 Number Talks Discussion: "What is ¾ of 12? Using a Story Context"	January 12th • Number Talks ¾ of 12 Discussion Post
Week 2 January 13th – 19th	Book: *Chapter 14*: Developing Fraction Concepts (Equivalent Fractions & Comparing Fractions) • Pages 359 – 372 Number Talks Discussion: "Comparing 24/50 and 21/40"	January 19th • Problem-Solving Set (Chap. 14) • Number Talks Comparing 24/50 and 21/40 Discussion Post
Week 3 January 20th – 26th	Book: *Chapter 15*: Developing Fraction Operations (Addition & Subtraction) • Pages 373 – 385 Number Talks Discussion: • "1/2 + 1/2, 1/2 + 3/4: Developing Addition Strategies with Fractions" • "3/4 – 3/8: Developing Subtraction Strategies with Fractions"	January 26th • Number Talks 1/2 + 1/2, 1/2 + 3/4 & 3/4 – 3/8 Discussion Posts
Week 4 Jan. 27th – Feb. 2nd	Book: *Chapter 15*: Developing Fraction Operations (Multiplication & Division) • Pages 385 – 404 Number Talks Discussion: • "1 1/3 x 3/4: Developing Multiplication Strategies with Fractions" • "1 / 3/8: Developing Division Strategies with Fractions"	February 2nd • Problem-Solving Set (Chap. 15) • Number Talks 1 1/3 x 3/4 & 1 / 3/8 Discussion Posts
Week 5 February 3rd – 9th	Book: *Chapter 16*: Developing Decimal and Percent Concepts and Decimal Computation • Pages 405 – 434 Number Talks Discussion: • "Placing 0.9, 0.13, 0.255 on the Number Line: Connecting Fractions to Decimals" • "1/4 x 1/3: Connecting Fractions to Percentages"	February 9th • Problem-Solving Set (Chap. 16) • Number Talks Placing Decimals on the Number Line & 1/4 x 1/3 Discussion Posts • O&P Placement Confirmation Email

Week 6 February 10th – 16th	Book: *Chapter 17*: Ratios, Proportions, and Proportional Reasoning • Pages 435 – 459	February 16th • Problem-Solving Set (Chap. 17) • Up to Act One of Three Act Fraction Task Due for Feedback • O&P Observation Reflection
Week 7 February 17th – 23rd	Book: *Chapter 18*: Developing Measurement Concepts • Pages 460 – 499	February 23rd • Problem-Solving Set (Chap. 18)
Week 8 Feb. 24th – March 1st	Book: *Chapter 19*: Developing Geometric Thinking and Geometric Concepts • Pages 500 – 542	March 1st • Problem-Solving Set (Chap. 19) • O&P Small Group Reflection
Week 9 March 2nd – 8th	Book: *Chapter 13*: Algebraic Thinking, Equations, and Functions (Properties, Patterns, & Functions) • Pages 299 - 317	March 8th • Mathematical Teaching Philosophy
Week 10 March 9th – 17th	Book: *Chapter 13*: Algebraic Thinking, Equations, and Functions (Symbols & Equations) • Pages 317 – 335	March 17th • Full Version of Three-Act Fraction Task • Problem-Solving Set (Chap. 13) • O&P Teaching Reflection • O&P Completed Time Sheet