



Course Syllabus

Chaminade University Honolulu
3140 Waiialae Avenue - Honolulu, HI 96816
www.chaminade.edu

Course Number: EDUC 767/ED 445
Course Title: Early Childhood Math Methods
Credit: 3 Credits
Department Name: Education Division

Instructor Name: Nanci Guartofierro, M.A.
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Office Location: Brogan Hall 101
Office Hours: By appointment
Instructor Information: [Nanci Guartofierro, M.A.](#)

Term Dates: Summer 2019 (July 1, 2019 - September 14, 2019)
Class Meeting Days: July 12, 2019 - July 17, 2019
Class Meeting Hours: 8:30 a.m. - 5:30 p.m.
Class Location: Brogan Hall 101

AMS Curriculum Summary:

- **AMS Course Component Name:** Math Curriculum
- **Hours:** 40 Hours
- **Specified Dates:** July 12, 2019 - July 17, 2019-IR
- **Instructor(s):** [Nanci Guartofierro, M.A.](#)
- **Course Description:** This course covers philosophy and rationale of math including materials that aid the development of concepts/skills such as introduction to numeration, the decimal system, functions of the decimal system, linear counting, memorization of basic arithmetic facts, fractions, and math applications.

Textbooks:

Bredekamp, S., & Copple, C. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3d ed.). Washington D.C: NAEYC. ISBN: 978-1-928896-64-7 <http://montessorimethods.weebly.com/textbooks.html>

Montessori, M. (1967). *The discovery of the child*. New York: Ballantine Books. ISBN 0-345-33656-9
<http://montessorimethods.weebly.com/textbooks.html>

Montessori, M. (1966). *The secret of childhood*. New York: Ballantine Books. ISBN 0-345-30583-3
<http://montessorimethods.weebly.com/textbooks.html>

Montessori Math Methods Manual. Please [click here](#) to purchase online

The Early Math Collaborative Erikson Institute (2014). *Big Ideas of Early Mathematics: What Teachers of Young Children Need to Know*, Upper Saddle River, NJ: Pearson Education, Inc. ISBN: 9780132946971 <http://montessorimethods.weebly.com/textbooks.html>

Catalog Description:

This course introduces the philosophy and rationale for the teaching of math to young children. General math theory concepts are demonstrated with Montessori early childhood education materials and other manipulatives. Montessori math methods are presented and practiced. Cosmic lessons are included in this course. Required course for Montessori Credential, cross-listed with ED 445. *Prerequisite: EDUC 649/ED 446.*

Conceptual Framework:

The Education Division's Conceptual Framework is based upon a set of beliefs that flow from the University's vision and mission statements, the Division's vision and mission statements, and the core academic beliefs of Chaminade University. These values and beliefs are based on the Catholic Marianist principles; a commitment to a mentor teacher and educational leader candidates to their fullest potential; a commitment to teaching, scholarship and research; and a commitment to serve the university and the larger community. This alignment is designed to prepare education professionals who meet the National Council for Accreditation of Teacher Education (NCATE) standards for effective teaching by demonstrating professional dispositions and empathy, content knowledge, and the pedagogical/leadership skills to work effectively work with a diverse community of learners.

Major Course Topics:

1. The developmental nature of math and math instruction;
2. The nature of the numbers and math concepts;
3. Specific methods for diagnosing and teaching children the skills for math concepts;
4. Integrate math through all curricular areas;
5. Montessori materials sequence for the math curriculum.

Program Learning Outcomes (PLOs):

Successful teacher candidates in Chaminade University of Honolulu's initial teacher licensure programs will demonstrate knowledge, skills, and dispositions in the following areas:

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 a positive impact on student learning based upon knowledge*)

of the 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)

COMPETENCIES FOR MONTESSORI TEACHER CANDIDATES (2013)

I. Knowledge

- A. Montessori Philosophy
- B. Human Growth and Development
- C. Subject matter for each Course Level* not to exclude:
 - 1. Cosmic education
 - 2. Peace education
 - 3. Practical life
 - 4. The arts
 - 5. Fine and gross motor skills
- D. Community resources for learning

II. Pedagogy Adult Learner understands:

- A. Correct use of Montessori materials
- B. Scope and sequence of the curriculum (spiral curriculum)
- C. The prepared environment
- D. Parent/teacher/ family/community partnership
- E. The purpose and methods of observation
- F. Planning for instruction
- G. Assessment & documentation
- H. Reflective practice
- I. Support and intervention for learning differences
- J. Culturally responsive methods

III. Teaching with Grace and Courtesy Adult Learner demonstrates and implements:

- A. Classroom leadership
- B. Authentic assessment
- C. The Montessori philosophy and methods (materials)
- D. Parent/teacher/ family partnership
- E. Professional responsibilities
- F. Innovation and flexibility

NAEYC STANDARDS FOR PROFESSIONAL PREPARATION PROGRAMS (2010)

Standard 1. Promoting Child Development and Learning

1a: Knowing and understanding young children's characteristics and needs, from birth through age 8

1b: Knowing and understanding the multiple influences on early development and learning

1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children

Standard 2. Building Family and Community Relationships

2a: Knowing about and understanding diverse family and community characteristics

2b: Supporting and engaging families and communities through respectful, reciprocal relationships

2c: Involving families and communities in young children's development and learning

Standard 3. Observing, Documenting, and Assessing to Support Young Children and Families

3a: Understanding the goals, benefits, and uses of assessment – including its use in the development of appropriate goals, curriculum, and teaching strategies for young children

3b: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment, and data collection.

3c: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

3d: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments

Standard 4. Using Developmentally Effective Approaches

4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children

4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology

4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches

4d: Reflecting on own practice to promote positive outcomes for each child

Standard 5. Using Content Knowledge to Build a Meaningful Curriculum

5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.

5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines

5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child

Standard 6. Becoming a Professional

6a: Identifying and involving oneself with the early childhood field

6b: Knowing about and upholding ethical standards and other early childhood professional guidelines

6c: Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.

6d: Integrating knowledgeable, reflective, and critical perspectives on early education

6e: Engaging in informed advocacy for young children and the early childhood profession

Standard 7. Early Childhood Field Experiences

7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth-age 3, 3-5, 5-8)

7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers, and homes, Head Start programs)

Course Learning Objectives:

CLO 1 MACTE 1 (HTSB 1,2,5) (NAEYC 1,5)	Demonstrates an understanding of and implements Montessori philosophy with a focus on the early childhood years.
CLO 2 MACTE 1 (HTSB 1,2,5) (NAEYC 1,5)	Comprehends and utilizes an understanding of the stages of human growth, development, and educational theories with an emphasis from two and one-half (2 1/2) through six (6) years of age.
CLO 3 MACTE 1 (HTSB 9,10) (NAEYC 5)	Demonstrates evidence of personal growth through self-evaluation and introspection
CLO 4 MACTE 2 (HTSB 1,2,3,4,5) (NAEYC 1,5)	Utilizes cultural sensitivity in support of the development of individual children.
CLO 5 MACTE 2 (HTSB 1,2, 3, 4,5, 8) (NAEYC 1,3)	Demonstrates the principles of Montessori environmental and material design.
CLO 6 MACTE 2 (HTSB 15,6,7) (NAEYC 1,3,4)	Articulates the rationale and sequence of the Montessori curriculum.
CLO 7 MACTE 3 (HTSB 5, 6,7, 8) (NAEYC 3,4)	Demonstrates proficiency in applying Montessori principles in the context of the curriculum, didactic materials, and lesson presentations.

At the end of this course, the students will:

Linkages between Course Learning Objectives (CLOs) and Program Learning Objectives

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8
CLO 1	X	X						
CLO 2	X							X
CLO 3	X	X				X	X	
CLO 4	X	X			X	X		

Essential Questions Addressed in This Course

Essential Questions	Related CLOs	Related PLOs
What are the key components of Montessori's philosophy of teaching math and how are these practiced utilizing Dr. Montessori's methodology in the classroom?	1, 2, 3	1,2,
What is the purpose of math concepts to the overall philosophy and methodology of Montessori teaching and learning?	6, 7	1,2,3,4, 5, 6, 7, 8
What competencies and math experiences in making and presenting math lessons, and setting up a math area in a classroom-based upon scope and sequence is essential to the professional development of Montessori teachers?	1, 2, 3, 4, 5, 6, 7	1, 2, 3, 4, 5, 6, 7, 8

Key Teaching-Learning Strategies This is an online course. The key instructional, learning, strategies and activities include:

- Readings
- In-class and online lessons
- In-class and online discussions
- Written assignments
- Writing a rationale
- Individual research
- Self-Reflection
- Visual presentations
- Rubrics
- Setting up a language arts area
- Practice working with language arts materials
- Creating language arts materials
- Demonstrating how to present lessons in language arts

Course Learning Objectives	Instructional Activities	Assessment/s
<u>CLO 1</u>	Readings, Online Discussions, Making materials and lesson plans, setting up shelves, writing rationale.	Online Discussions, Making materials and lesson plan, setting up shelves, writing rationale.
<u>CLO 2</u>	Readings, Online Discussions, Making materials and lesson plan, setting up shelves, writing rationale.	Readings, Online Discussions, Making materials and lesson plan, setting up shelves, writing rationale.
<u>CLO 3</u>	Readings, Class and Online lessons, Online Discussions, Individual Research.	Self-reflections, self-assessments as a result of practice and setting up areas, creating and demonstrating activity and lesson plan.

<u>CLO 4</u>	Readings, classroom, and online discussions and lessons, writing rationale, and individual research.	Writing rationale, demonstration of competencies in presenting, demonstrating and creating lessons.
<u>CLO 5</u>	Readings, class and online lessons, setting up according to scope and sequence, creating an activity and lesson and writing a rationale.	Setting up according to scope and sequence, creating an activity and lesson and writing a rationale.
<u>CLO 6</u>	Class and online lessons, setting up according to scope and sequence, creating an activity and lesson and writing a rationale.	Setting up according to scope and sequence, creating an activity and lesson and writing a rationale.
<u>CLO 7</u>	Class and online lessons, setting up according to scope and sequence, creating an activity and lesson and writing a rationale.	Setting up according to scope and sequence, creating an activity and lesson and writing a rationale.

MATH ASSIGNMENTS

Please [click here](#) to view all the assignments for this course.

Grading Scale:

A- 90% - 100%

B- 80% - 90%

Below 79% Must Retake the Class

University Policies:

Attendance: 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 of the Division as appropriate for the course format (on-ground, hybrid, or online).* Penalties for not meeting the attendance requirements may result in lowering of the grade, withdrawal from the course, or failing the course.

A summary of the Education Division's attendance policy is attached at the end of this syllabus.

Writing Standards: All work submitted by Chaminade University students must meet the following writing standards. Written assignments should:

1. Use correctly the grammar, spelling, punctuation, and sentence structure of Standard Written English.
2. Develop ideas, themes, and main points coherently and concisely.
3. Adopt modes and styles appropriate to their purpose and audience.
4. Be clear, complete, and effective.
5. Carefully analyze and synthesize material and ideas borrowed from sources. In addition, the sources of the borrowed material should be correctly acknowledged to avoid plagiarism.

Plagiarism: "Plagiarism is the offering of work of another as one's own. Plagiarism is a serious offense and may include, but is not limited to, the following:

1. Complete or partial copying directly from a published or unpublished source without proper acknowledgment of the author. Minor changes in wording or syntax are not sufficient to avoid charges of plagiarism. Proper acknowledgment of the source of a text is always mandatory.
2. Paraphrasing the work of another without proper author acknowledgment.
3. Submitting as one's own original work (however freely given or purchased) the original exam, research paper, manuscript, report, computer file, or other assignments that have been prepared by another individual.

Please refer to your **Student Handbook** and the **Graduate Catalog** for other important institutional and academic policies including more detailed information regarding Grading, Plagiarism, Classroom Department, Freedom of Expression, Add/Drop, Disabilities, and others.

Diversity/Full Inclusion: Chaminade University of Honolulu is committed to a policy of non-discrimination and recognizes the obligation to provide equal access to its programs, services, and activities to students with disabilities. If a student is in need of an accommodation due to a documented disability, he/she should contact the Counseling Center at 735-4845 or 739-4603. A determination will be made if the student meets the requirements for documented disability in accordance with the Americans with Disabilities Act. It is important to contact them as soon as possible so that accommodations are implemented in a timely fashion.

Beyond the legal requirements, Chaminade's Education Division is committed to an integral, quality education that begins with respect for the complexity and diversity of each person. Subsequently, faculty members attempt to engage the whole person with quality courses and activities that challenge the intellectual, emotional, aesthetic, physical, and ethical dimensions that make up each student's life experience.

Grade Dissemination (Clearly share how and when students will learn of their grades.):

Example: Graded tests and materials in this course will be returned individually only by request. You can access your scores at any time using the Grade Book function of our University Learning Management System. My goal will be to return graded assignments within one week of the due date.

Course Policies**Late Work Policy :**

There are no make-ups for in-class writing, quizzes or exams. Essays turned in late will be assessed a penalty: a half-letter grade if it is one day late, or a full-letter grade for 2-7 days late. Essays will not be accepted if overdue by more than seven days.

Grades of "Incomplete":

The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

Rewrite Policy:

Example: Rewrites are entirely optional; however, only the formal essay may be rewritten for a revised grade. Note that an alternate grading rubric will be used for the rewrite, featuring an additional column that evaluates the changes made specifically.

Writing Policy:

Example: Commentary on written work will be delivered in written format, at the end of the assignment. However, upon request, an alternate delivery method can be used. If desired, instructor comments can be made verbally and delivered to the student as an mp4. This approach yields far fewer written comments, but much more commentary, in general, is delivered, due to the speed and specificity of speech. Those requesting mp4 feedback must state so when the essay is turned in. All papers should demonstrate mastery of grammar, punctuation, spelling, and syntax expected of college-level students. The use of [APA/MLA](#) is required for all papers. If you need writing assistance, please seek help from Student Support Services and the [Academic Achievement Program](#). All papers are to be word-processed, proofread, and solely the work of the author.

Group Work Policy:

Example: Everyone must take part in a group project. All members of a group will receive the same score; that is, the project is assessed and everyone receives this score. However, that number is only 90% of your grade for this project. The final 10% is individual and refers to your teamwork. Every person in the group will provide the instructor with a suggested grade for every other member of the group, and the instructor will assign a grade that is informed by those suggestions. Also, everyone must take part in a group essay. The grading criteria are the same as the group project. Once formed, groups cannot be altered or switched, except for reasons of extended hospitalization.

Appropriate Technology:

You are expected to work with appropriate technology including mobile devices for your course work.

Student Expectations

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 the 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.

Title IX Compliance

Chaminade University of Honolulu (CUH) 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 Chaminade Counseling Center at [808 735-4845](tel:8087354845) and/or any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.

Attendance Policy (Offer specifics about your expectations for attendance – physically and mentally – perhaps a word on engagement and what it means to be “present”. How many absences are acceptable/expected? Will students get points for attendance and/or participation? You may also describe expectation of courtesy here, i.e. when discussing, we will create an active, open environment, which encourages diverse thoughts and comments. We strive to create evidence-based arguments and attack the idea, never the person):

Professionalism Policy:

Please attend to all university policy and classroom etiquette procedures. Those not heeding the policies will be asked to leave the classroom/lab immediately so as to not disrupt the learning environment. Please arrive on time, be attentive, and respectful of all class meetings. Students who habitually disturb the class by talking, arriving late or other unprofessional behavior may suffer a reduction in their final class grade.

Academic Conduct Policy

The success of the Honor Code is made possible only with the acceptance and cooperation of every student. Each student is expected to maintain the principles of the Code. Example of Honor Code violations include:

- Giving or receiving information from another student during an examination;
- Using unauthorized sources for answers during an examination;
- Illegally obtained test questions before the test;
- Any and all forms of plagiarism – submit all or part of someone else’s work or ideas as your own;
- The destruction and/or confiscation of school and/or personal property.

A violation is reported either to the professor involved, who will report it to the Dean of Students, or directly to the Dean of Students.

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 an 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 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.

One-on-One Tutoring

Student Support Services and the Academic Achievement Program offer free, one-on-one tutoring for all undergraduate students at Chaminade University. Tutoring services are designed to guide students to the point at which they become independent learners, no longer a tutor. Subjects tutored include, but are not limited to biology, chemistry, math, nursing, English, etc. The tutoring corps consists of trained Peer and Professional Tutors.

Tutoring is available by appointment only. Tutoring takes place in the Student Support Services building during the hours of 9:00 am to 5:00 pm, Monday through Friday. In order to receive tutoring, a student must first complete and submit an intake form. After submitting the intake form, a staff member will assist the students in creating an online account that allows him/her to book an appointment through the online system. All appointments must be made two (2) days prior to the desired appointment. Cancellations must be made 24 hours in advance. For further information, contact Student Support Services at [\(808\) 735-4724](tel:8087354724).