



## Chaminade University OF HONOLULU

### MA 305: MATH FOR ELEMENTARY TEACHERS II

Spring 2017 (January 17 – May 9, 2017)

- Instructor:** Mikami, Kevin ([kevin.mikami@chaminad.edu](mailto:kevin.mikami@chaminad.edu); (808) 739-4684)  
**Office hours:** M-F, 10a – 4p (advance notice preferred)
- Course Schedule:** MWF, 1:30 – 2:20pm, Brogan 101
- Required text:** Beckmann, Sybilla (2014). *Mathematics for Elementary Teachers with Activities*. 4<sup>th</sup> ed. Pearson. ISBN---10: 0321825721
- Other resources:** MyMathLab ([www.mymathlab.com](http://www.mymathlab.com))  
Geogebra (dynamic geometry software) [www.geogebra.org](http://www.geogebra.org)  
Virtual Manipulatives available at <http://nlvm.usu.edu/en/nav/vlibrary.html>  
National Council of Teachers of Mathematics <http://www.nctm.org>  
NCTM's Illuminations <http://illuminations.nctm.org/>  
Google SketchUp (3D modeling software) <http://sketchup.google.com>  
Other open education resource readings and video links will be provided.

#### Catalog Course Description:

This course provides prospective elementary education majors with a deeper and more comprehensive understanding of the 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.

#### Major Course Topics

- |                    |  |
|--------------------|--|
| 1. Polyhedra       | 2. Polygons and Circles                      |
| 3. Symmetry        | 4. Tessellations                             |
| 5. Similar Figures | 6. Geometric constructions                   |
| 7. Transformations | 8. Reasoning and Proof                       |
| 9. Measurement     | 10. Perimeter, Area, Surface Area and Volume |

#### Program Learning Outcomes (PLOs)

Successful teacher candidates must meet relevant professional, state, and institutional standards through meeting the following Program Learning Outcomes. PLOs highlighted will be emphasized through this course.

- |      |   |
|------|---|
| PLO1 | Knowledge of subject matter such as reading/language arts, mathematics, social sciences, science, visual arts, musical arts, and kinesthetic arts ( <i>Content Knowledge</i> ). |
| PLO2 | Knowledge of how students develop and learn, and engagement of students in developmentally appropriate experiences that support learning ( <i>Developmentally</i>               |

*Appropriate Practice).*

- PLO3 Knowledge of how to teach subject matter to students and the application of a variety of instructional strategies that are rigorous, differentiated, focused on the active involvement of the learner (*Pedagogical Content Knowledge*).
- PLO4 Knowledge and application of appropriate technology for student learning (*Technology*).
- PLO5 Knowledge and use of appropriate assessment strategies that enhance the knowledge of learners and their responsibility for their own learning (*Assessment*).
- PLO6 Skills for adapting learning activities for individual differences and the needs of diverse learners and for maintaining safe, positive, caring, and inclusive learning environments (*Diversity*).
- PLO7 Skills in the planning and design of meaningful learning activities that support and have a positive impact on student learning based upon knowledge of subject matter, students, the community, curriculum standards, and integration of appropriate technology (*Focus on Student Learning*).
- PLO8 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 (*Professional & Ethical Dispositions and Communication*).

### Course Learning Objectives (CLOs)

At the end of this course, the student will:

- CLO 1** Know, understand and use the major concepts and procedures that define geometry, measurement, and data analysis and probability.
- CLO 2** Engage in problem solving, reasoning and proof, communications, connections, and representation.
- CLO 3** Demonstrate an appreciation for mathematics as a body of knowledge that is interesting and useful.
- CLO 4** Use a variety of manipulatives, calculators, computer programs, and other appropriate technology to investigate and explain mathematics.

### Assignment Plan

Assignment	% of Grade	Assignment Description
Homework	10	Assigned per section, discussed per class
Exams and Projects	90	Cumulative per section assigned

### Grading Scale

100-90% = A

89-80% = B

79-70% = C

69-60% = D

59% and below = F

**Weekly Schedule**

Week	Text Topics	Exam schedule
Jan 18, 20	Geometry (10.1-10.3)	
Jan 23, 25, 27	Geometry (10.4-10.5)	
Jan 30, Feb 1, 3	Measurement (11.1-11.2)	
Feb 6, 8, 10	Measurement (11.3-11.4)	
Feb 13, 15, 17	Area of Shapes(12.1-12.3)	Midterm 1 (Ch 10-11)
Feb 22, 24	Area of Shapes (12.4-12.6)	
Feb 27, Mar 1, 3	Area of Shapes (12.7-12.9)	
Mar 6, 8, 10	Solid Shapes, Volume, Surface Area (13.1-13.2)	Midterm 2 (Ch 12)
Mar 13, 15, 17	Solid Shapes, Volume, Surface Area (13.3-13.4)	
Mar 20 - 24	Spring Break	-----
Mar 29, 31	Geometry of Motion (14.1-14.3)	
Apr 3, 5, 7	Geometry of Motion (14.4-14.6)	
Apr 10, 12	Statistics (15.1-15.2)	Midterm 3 (Ch 13-14)
Apr 17, 19, 21	Statistics (15.3-15.4)	
Apr 24, 26, 28	Probability (16.1-16.2)	
May 1, 3, 5	Probability (16.3-16.4)	
May 9	Finals Week	Final Exam (Ch 15-16)

Note: Schedule is tentative and subject to change, students notified in class.

**Education Division Conceptual Framework**

The Division of Education'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 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 with a diverse community of learners.

**Mission Statement**

The Education Division's mission is to foster the development of knowledgeable, proficient, and reflective teachers and educational leaders. Our programs are based in the liberal arts tradition, Catholic Marianist values, current research, best practice, and professional standards. In this context, we develop educators who demonstrate ethical, effective, and culturally responsive practices, and a commitment to building a just and peaceful society.

**Marianist Values**

We promote the characteristics of Marianist universities which include:

1. *Education for Formation in Faith* (Mana): In the community of learners, reason and personal faith are seen as mutually complementary roads to truth. All scholars are invited to join the larger community of faith, hope, and love.

2. *Integral, Quality Education* (Aloha): The 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 student's life experience.
  - a. Education is an active process.
  - b. Teaching and learning are reciprocal processes.
  - c. Diversity enriches education by providing many different cultural values and viewpoints.
  - d. Varied instruction for individual differences and learning styles facilitates learning.
  - e. Learning is facilitated by integrating curriculum, using cooperative learning strategies, having high expectations of the learner, and making curriculum relevant to the world outside of the classroom.
  - f. Teachers are responsible for nurturing students' desire to learn.
3. *Education and the Family Spirit* ('Ohana): The community of learners is a second family which encourages the personal development of each of its members. Mutual respect for all members of the family allows the Marianist-based scholarly community to share responsibility for decision making at all levels.
  - a. Learning requires a safe, stimulating environment where each student is nurtured.
  - b. School, community, and family collaboration support learning.
4. *Education for Service, Peace, and Justice* (Pono): All members of the community strive to serve both the University and the larger surrounding community. Additionally, all members dispense and receive justice to and from each other in both the internal and external communities.
  - a. Students must be educated for responsible citizenship, and self-directed lifelong learning.
  - b. Peace is facilitated through cultural awareness and service in support of justice.
5. *Education for Adaptation and Change* ('Āina): True to the tradition of faith, a Marianist-founded education prepares students for tomorrow and facilitates adapting to the changes brought about each day. This scholarly community of learners regards technology as a critical aid in the quest for understanding in a changing world.
  - a. Creative problem solving, divergent thinking and effective communication are nurtured.
  - b. Reflection facilitates learning.
  - c. Technology enriches the learning environment and the learning experience.
  - d. Assessment improves instruction and increases student achievement.
  - e. Students must be educated for responsible citizenship, and self-directed lifelong learning.

### **Education Division Attendance Policy (Revised 22 December 2011)**

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 the lowering of the grade, withdrawal from the course, or failing the course.*

Education Division Incomplete Grade Policy. At the discretion of the faculty member, a grade of "I" may be assigned to a student who has successfully completed a majority of the coursework, but who has an unavoidable and compelling reason why the remainder of the work cannot be completed on schedule. The issuance of an "I" grade is not automatic. Prior to reporting final grades, a contract must be made between the student and the instructor for the completion of the required coursework. This contract must reflect a final default grade if the student does not submit the required assignments. (For

example, the grade notation would be IB, IC, or IF. The default for an “I” that is submitted without an alternative grade is “F.”) The contract must include a detail of the remaining coursework and the final deadline date by which the grade is to be submitted. (Note: the deadline date is 90 days past the end of term date and includes the time required by the instructor to review, grade, and submit the paperwork reflecting the final grade.) This deadline date may not be extended.

#### KSD Referrals.

- Background: Implementation of the Knowledge/Skill/Disposition (KSD) referral system was approved by the Division at the Fall 2011 Chaminade Faculty Retreat. The KSD referral system is in place to help undergraduate and graduate students in reaching their goals to become highly-qualified and highly-effective educators and administrators. As our Education Division mission states, we strive “To foster the development of teachers and leaders in education through programs based in the liberal arts tradition, Catholic Marianist values, current research, best practice, and state and professional standards.” Part of this is to ensure that each teacher candidate or educational leader taking our coursework is knowledgeable in the content area, possesses the needed skills to teach that content, and has dispositions that are reflective of an education professional with accompanying Marianist values.
- Referral process: Any member of the Education Team, defined as an employee of the Education Division and including adjunct instructors, can initiate a KSD referral to the Dean at any time and for any student taking an education course (see attached form). Referrals can also be made to the Dean for our students taking non-education courses.

Syllabus Change Policy. This syllabus is a guide and every attempt is made to provide an accurate overview of the course. Occasionally, it necessary for the instructor to modify the syllabus during the semester due to the progress of the class, experiences of the students, and unforeseen changes in the schedule. Changes to the syllabus will be made with advance notice whenever possible.

#### **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 was included above.

Additionally, your inability to attend class regularly and punctually will adversely affect your grade in the following ways:

- Late work. All submitted assignments are due on the dates and times indicated on the syllabus. Late assignments will be reduced one letter grade each day they are late.
  - All work that is ten days late or more will receive a score of zero. Assignments build upon each other so students must keep current with the work in order for feedback to be relevant.

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.

#### Academic Honesty Statement.

- In the cases of alleged academic dishonesty (such as plagiarism, cheating, claiming work not done by the student, or lying) where a faculty member observes or discovers the dishonesty, the faculty members may choose to confront the student and handle the matter between the faculty member and the student, or the faculty member may choose to refer the incident to the Dean or Graduate Program Director. (If the Dean or the Director is the instructor in question, the concern shall be directed to the Provost; if the Provost is the instructor in question, the concern shall be directed to the President.) If the faculty member chooses to confront the situation and it is not satisfactorily resolved between the faculty member and the student, the matter may then be referred or appealed to the Dean or Director.
- In either case, the Divisional Dean or Graduate Program Director may choose to 1) resolve the matter through a meeting with both the student and the faculty member, or 2) refer the matter to the Provost. The findings, in either case are final.
- If alleged academic dishonesty is reported to a faculty member by a third party, then the faculty member will meet with the Divisional Dean or Graduate Program Director; to determine whether the evidence warrants an investigation, and how the investigation will be handled. It may also be decided that the faculty member will either confront the student or, assuming enough evidence is present to warrant action, turn the matter over to the Divisional Dean or Program Director to either resolve or organize a hearing.
- If the student is found guilty of the charges of academic dishonesty, the student may be subject to academic penalties such as failure of the course, exam, or assignment. Other penalties from the list of possible disciplinary sanctions may also be deemed appropriate.

Please refer to your **Student Handbook** and the **Course 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.

Disability and Full Inclusion Statement: 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 accommodation due to a documented disability, s/he should contact the Director of Personal Counseling at (808) 739-4603 or by email at the [jyasuhar@chaminade.edu](mailto:jyasuhar@chaminade.edu) address. A determination will be made if the student meets the requirements for documented disability in accordance with the American 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.

#### **Other Relevant Course Information**

##### Excused absences.

- 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 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.
- 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.

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 classes.

- When unexcused absences total more than 10% of the number of classes will result in a lowering of the overall grade by one letter grade. A student who misses 20% or more should withdraw or be administratively withdrawn from the course.
  - *Undergraduate Day Courses, MWF (45 Classes):* More than four absences lowers grade one letter. Missing more than nine class sessions will result in failure or withdrawal.

Additional notes.

- Any student who stops attending an on-ground course without officially withdrawing may receive a failing grade.
- **Tardy.** 10% of class time is equivalent to one-half class absence, and minutes are cumulative.

Required Email. Students are required to use their Chaminade University Email for all official communication.

Important Dates and Financial Aid Information. Contact the Registrar's Office or view the academic calendar for important add, drop, and withdrawal dates for this semester. Please be sure to contact your University Financial Aid Counselor before dropping or withdrawing from any class, as this may impact your financial aid status.

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:

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