MA 110-01-1: Pre-Calculus
Division of Natural Sciences & Mathematics
Chaminade University Honolulu
Spring 2022 / 3 Credits
Monday, Wednesday, Friday 11:30 am – 12:20 pm
Brogan Hall 101

Instructor:	Dr. Travis Mukina	**Office Location:**	Brogan 132
Email:	travis.mukina@chaminade.edu	**Office Hours/Zoom:**	By Appointment
Cell Phone:	(814) 450-8134		

Learning Materials:

- **Pearson MyMathLab Online Homework:**
  - Purchase access code directly on https://mlm.pearson.com/enrollment/mukina16614
  - Purchase access code from the bookstore
- **Desmos App**: A free, easy-to-use, graphing calculator app.
- **GroupMe App**: A way to stay up-to-date with all class announcements, assignments, and questions between you, your professor, and your classmates.
- **Google Drive/3-Ring Binder**: This should be comprised of provided guided notes, lectures, class activities, MyMathLab homework, and assessments.

Essential Question(s):

1. What does it mean to reason mathematically?
2. How do patterns and functions help us describe data, physical phenomena, and solve a variety of problems?
3. How do numbers represent quantitative relationships?

Course Catalog Description:
This course provides a foundation for further study in mathematics and prepares for Calculus I. Topics include functions and their graphs, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions and their inverses, and some other selected topics.

Course Overview:
This course is designed to produce better conceptual understanding of functions and mathematics in general that leads into understanding procedural understanding of formulas. A strong development of number relationships will also occur by the use of class discussions, sharing of ideas, and thought-provoking-take-home assessments.

Marianist Values:
This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education 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

Native Hawaiian Values:
Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the ʻOlelo Noʼeau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua (ʻŌlelo Noʻeau 364) May I live by God
2. Provide an Integral, Quality Education (Naʼauao) Lawe i ka maʻalea a kūʻonoʻono (ʻŌlelo Noʻeau 1957) Acquire skill and make it deep
3. Educate in Family Spirit (ʻOhana) ʻIke aku, ʻike mai, kōkua aku kōkua mai; pela iho la ka nohana ʻohana (ʻŌlelo Noʻeau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka noʻeau (ʻŌlelo Noʻeau 1430) Education is the standing torch of wisdom
5. Educate for Adaptation and Change (Aina) ʻAʻohe pau ka ʻike i ka hālau hoʻokahi (ʻŌlelo Noʻeau 203) All knowledge is not taught in the same school

Program Learning Outcomes (PLOs):

1	To demonstrate the understanding and skills in reading, interpreting, and communicating mathematical concepts which are integrated into other disciplines or appear in everyday life
2	To gain understandings of, and practical skills in logical thinking, deductive and inductive reasoning
3	To articulate the understanding of more advanced mathematical concepts and computational skills to support the study of other disciplines, including skills with numeric, analytic, and graphical methods
4	Where relevant, to develop mathematical maturity to undertake higher-level studies in mathematics and related fields

Course Learning Outcomes (CLOs):

1	Gain better understanding of the fundamentals of coordinate geometry.
2	Gain understanding of the concept of functions: (a) algebraic definition and graph of a function, and (b) combinations of functions.
3	Develop algebraic and graphical skills to work with polynomial and rational functions.
4	Develop algebraic and graphical skills to work with exponential and logarithmic functions.
5	Gain better understanding of trigonometric functions of real numbers and angles.
6	Develop skills in analytic trigonometry: Using trigonometric identities in simplification and evaluation of trigonometric expressions.
7	Develop skills to solve trigonometric equations.

Alignment of Learning Outcomes:

	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	CLO 6	CLO 7
Marianist Value(s)	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5	2, 5
WASC Core Competencies	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4
Program Outcome(s)	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4
Essential Question(s)	1, 2	1, 2	1, 2, 3	1, 3	1, 3	1	1

Assessment:

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. Always be prepared to effectively participate to class discussions, analyze the thinking of others in class, and clearly explain your thinking in most assignments. A scoring rubric is provided with every assessment to ensure you know what is required to receive the score desired. Feedback and grades on all assignments are provided within 7 days of submission.

1. MyMathLab (MML) Online Homework – 40% of Final Grade **[CLO 1, 2, 3, 4, 5, 6, & 7]**

MyMathLab Registration Due: Module 1
MyMathLab Homework Due: Modules 1, 2, 3, 5, 6, & 8
~10 points per section

Homework is assigned through the Pearson MyMathLab website. All homework assignments for each chapter are due at the end of each module. Extensions will not be granted and missed homework assignments cannot be reopened for completion. Collaboration with classmates is highly encouraged on all MyMathLab assignments.

2. Assessments – 60% of Final Grade (20% Each) **[CLO 1, 2, 3, 4, 5, 6, & 7]**

Chapters F, 1, & 2 Assessment: Module 4
Chapters 3 & 4 Assessment: Module 7
Chapters 5 & 6 Assessment: Module 9
35 points each

All assessments focus on content demonstrated in the lectures, guided notes, activities/discussions that occur in class, strategies used in your MyMathLab homework, and open-ended style questions. A full week is provided to complete each assessment and Desmos is always permitted. Collaboration with classmates is strictly prohibited on all assessments.

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

A - Outstanding scholarship and an unusual degree of intellectual initiative
B - Superior work done in a consistent and intellectual manner
C - Average grade indicating a competent grasp of subject matter
D - Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
F - Failed to grasp the minimum subject matter; no credit given

Hardware Requirements: Canvas is accessible from both PC and Mac computers with a reliable Internet connection. You will also need to be able to access audio and video files. Subsequently, you should have access to speakers or headphones that allow you to hear the audio.

Software Requirements: You will need to have some ability to listen to audio in an mp3 format, watch videos in mp4 format, stream online videos, and read .pdf files. There are a number of free software online that can be downloaded for free. If you need assistance with locating software please feel free to contact the Chaminade Help Desk at helpdesk@chaminade.edu or (808) 735-4855.

Technical Assistance for Canvas Users:

- Search for help on specific topics or get tips in Canvas Students
- Live chat with Canvas Support for students
- Canvas Support Hotline for students: +1-833-209-6111
- Watch this video to get you started
- Online tutorials: click on "Students" role to access tutorials
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu or call (808) 735-4855

Tutoring and Writing Services:
Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua 'Ike: Center for Student Learning in a variety of subjects (including, but are not limited to: biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua 'Ike's website (https://chaminade.edu/advising/kokua-ike/) for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. TutorMe can be accessed 24/7 from your Canvas account. Simply click Account – Notifications – TutorMe. For more information, please contact Kōkua 'Ike at tutoring@chaminade.edu or 808-739-8305.

Course Policies

Grades of "Incomplete:"
This policy on incomplete grades aligns with the same University policies.

Writing Policy:
For any writing assignments, please use APA format. Please refer to https://apastyle.apa.org for any specific style and grammar guidelines questions.

Instructor and Student Communication:
Questions for this course can be emailed to the instructor at travis.mukina@chaminade.edu, or sent a direct message on Canvas. Online and/or in-person meetings can be arranged. Response time will take place up to 24 hours.

Disability Access:
If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. 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 Kōkua 'Ike: Center for Student Learning by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Kōkua 'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

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. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Attendance Policy:
The following attendance policy is from the 2020-2021 Academic Catalog.

Students are expected to attend regularly all courses for which they are registered. Student should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade.

Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu ADA Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes.

Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

Academic Conduct Policy:
From the 2019-2020 Undergraduate Academic Catalog (p. 39):
Any community must have a set of rules and standards of conduct by which it operates. At Chaminade, these standards are outlined so as to reflect both the Catholic, Marianist values of the institution and to honor and respect students as responsible adults. All alleged violations of the community standards are handled through an established student conduct process, outlined in the Student Handbook, and operated within the guidelines set to honor both students' rights and campus values.

Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's jurisdiction from the time of their admission until their enrollment has been formally terminated. Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website.

For further information, please refer to the Student Handbook, which is linked annually on the following webpage: https://chaminade.edu/current-students/

Credit Hour Policy:
The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning

outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in 45 hours of engagement. This equates to one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester, 10-week term, or equivalent amount of work over a different amount of time. Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for one credit.

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through several means, including (a) regular online instruction or interaction with the faculty member and fellow students and (b) academic engagement through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practica, studio work, and preparation of papers, presentations, or other forms of assessment. This policy is in accordance with federal regulations and regional accrediting agencies.

Course Schedule (Spring 2022)

Module # Dates	**Module Description**	**Assignments Due by End of Module**
Module 1 January 10th – 16th	Chapter F: A Prelude to Functions • *Section F.1*: The Distance and Midpoint Formulas • *Section F.2*: Graphs of Equations in Two Variables; Intercepts; Symmetry • *Section F.3:* Lines • *Section F.4:* Circles	• Introductory Post • GroupMe Registration • MyMathLab (MML) Registration • Sections F.1, F.2, F.3, F.4
Module 2 January 17th – 30th	Chapter 1: Functions and Their Graphs • *Section 1.1:* Functions • *Section 1.2:* The Graph of a Function • *Section 1.3:* Properties of Functions • *Section 1.4:* Library of Functions; Piecewise-defined Functions • *Section 1.5:* Graphing Techniques – Transformations	• Sections 1.1, 1.2, 1.3, 1.4, 1.5
Module 3 Jan 31st – Feb 6th	Chapter 2: Linear and Quadratic Functions • *Section 2.1:* Properties of Linear Functions and Linear Models • *Section 2.3:* Quadratic Functions and Their Zeros • *Section 2.4:* Properties of Quadratic Functions • *Section 2.7:* Complex Zeros of a Quadratic Function	• Sections 2.1, 2.3, 2.4, 2.7
Module 4 February 7th – 13th	**Chapters F, 1, & 2 Assessment**	• Chapters F, 1, & 2 Assessment
Module 5 February 14th – 27th	Chapter 3: Polynomial and Rational Functions • *Section 3.1:* Polynomial Functions and Models • *Section 3.2:* The Real Zeros of a Polynomial Function • *Section 3.4:* Properties of Rational Functions • *Section 3.5:* The Graph of a Rational Function	• Sections 3.1, 3.2, 3.4, 3.5
Module 6 Feb 28th – Mar 13th	Chapter 4: Exponential and Logarithmic Functions • *Section 4.1:* Composite Functions • *Section 4.2:* One-to-One Functions; Inverse Functions • *Section 4.3:* Exponential Functions • *Section 4.4:* Logarithmic Functions • *Section 4.5:* Properties of Logarithms • *Section 4.6:* Logarithmic and Exponential Equations	• Sections 4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Module 7 March 14th – 20th	**Chapters 3 & 4 Assessment**	• Chapters 3 & 4 Assessment
Module 8 Mar 28th – Apr 24th	Chapter 5: Trigonometric Functions • *Section 5.1:* Angles and Their Measure • *Section 5.2:* Right Triangle Trigonometry • *Section 5.3:* Computing the Values of Trigonometric Functions of Acute Angles • *Section 5.4:* Trigonometric Functions of Any Angle • *Section 5.5:* Unit Circle Approach; Properties of the Trigonometric Functions Chapter 6: Analytic Trigonometry • *Section 6.1:* The Inverse Sine, Cosine, and Tangent Functions • *Section 6.3:* Trigonometric Equations	• Sections 5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.3
Module 9 Apr 25th – May 1st	**Chapters 5 & 6 Assessment**	• Chapters 5 & 6 Assessment