



MA 110-01-1 – Pre Calculus
Division of Natural Sciences & Mathematics
Spring 2020 / 3 Credits / Henry 102
Tuesday & Thursday 8:30 – 9:50am

Instructor: Dr. Travis Mukina
Email: travis.mukina@chaminade.edu
Phone: 808.440.4250

Office Hours: Brogan 132
Mon & Wed 2:30 – 3:30pm
Tues & Thurs 10:00 – 11:00am

Learning Materials:

- **MyMathLab Online Homework:** Purchase access code directly on www.pearson.com/mylab
 - Course ID: **mukina24062**
- **Desmos Apps/ Graphing Calculator:** Desmos App/Desmos Test Mode App or TI-84 (or higher) is required.
- **Textbook (Optional):** Sullivan and Sullivan, Precalculus: Concepts Through Functions, A Right Triangle Approach to Trigonometry (2nd Edition) Custom Edition for Chaminade University, Pearson, New York, 2011. ISBN-10: 1-269-37602-0, ISBN-13: 978-1-269-37602-0
- **3-Ring Binder:** Throughout the course, you should keep an organized collection of the course material. This is comprised of provided guided notes, MyMathLab online homework, exam reviews, and exams. Completed versions of guided notes will be posted on Canvas under “Modules” after each lesson is complete.

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.

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

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.

Assessment:

Dates noted on the course schedule are tentative. Always be prepared to effectively participate to class discussions, explain your thinking, and analyze the thinking of others in class. 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. It will be your responsibility to turn in all assignments on time. Late MyMathLab assignments will not be re-opened or accepted.

1. Attendance / Class Participation – 10% of Final Grade

Due: Ongoing evaluation by instructor throughout the semester

Your attendance, promptness, attention, cooperation, and active participation are necessary to facilitate this course. If you are unable to attend class, it is your responsibility to notify your instructor before the start of class and find out from a classmate what you missed during class. 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 in class every day, to be responsive, and participate fully in all class activities. It is important that you listen to the ideas of others and respect their thoughts. Your grade will be determined based a holistic evaluation of your professionalism and participation in the following ways:

- Attendance
- Active Participation in Whole Class and Small Group Discussions

2. MyMathLab Online Homework – 30% of Final Grade

Due: Throughout the semester

10 points per section

Homework will be assigned after each class online through the MyMathLab website. All homework assignments for each section are due by *midnight* of the *next* day of class. Extensions will not be granted unless extreme circumstances take place. Some days, there will be time at the beginning of class to ask homework questions before they are due that night.

3. Exams – 60% of Final Grade (20% Each)

Exam 1: February 25th

Exam 2: April 7th

Exam 3: April 30th

50 points each

All three exams will focus on content demonstrated in the homework along with your notes from class discussions. There is no “cumulative” final exam. Each exam will cover specific content from previous weeks. Desmos Test App or a Graphing Calculator is permitted.

Assignments	% of Final Grade
<i>Attendance / Class Participation</i>	10%
<i>MyMathLab Online Homework</i>	30%
<i>Exam 1</i>	20%
<i>Exam 2</i>	20%
<i>Exam 3</i>	20%

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

Tentative Course Outline (Spring 2020)

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

Week # Date	Class Description	Assignments Due
Week 1 January 14 th	Introduction to Course & Syllabus Foundations: A Prelude to Functions <ul style="list-style-type: none"> • Pages 2 – 6 • <i>Section 0.1</i>: The Distance and Midpoint Formulas 	<ul style="list-style-type: none"> • Register for MyMathLab • Purchase Graphing Calculator/Download Desmos App
Week 1 January 16 th	Foundations: A Prelude to Functions <ul style="list-style-type: none"> • Pages 9 – 16 • <i>Section 0.2</i>: Graphs of Equations in Two Variables; Intercepts; Symmetry 	<ul style="list-style-type: none"> • MML 0.1
Week 2 January 21 st	Foundations: A Prelude to Functions <ul style="list-style-type: none"> • Pages 19 – 29 • <i>Section 0.3</i>: Lines Foundations: A Prelude to Functions <ul style="list-style-type: none"> • Pages 35 – 39 • <i>Section 0.4</i>: Circles 	<ul style="list-style-type: none"> • MML 0.2
Week 2 January 23 rd	Chapter 1: Functions and Their Graphs <ul style="list-style-type: none"> • Pages 43 – 53 • <i>Section 1.1</i>: Functions 	<ul style="list-style-type: none"> • MML 0.3 • MML 0.4
Week 3 January 28 th	Chapter 1: Functions and Their Graphs <ul style="list-style-type: none"> • Pages 57 – 61 • <i>Section 1.2</i>: The Graph of a Function Chapter 1: Functions and Their Graphs <ul style="list-style-type: none"> • Pages 67 – 75 • <i>Section 1.3</i>: Properties of Functions 	<ul style="list-style-type: none"> • MML 1.1
Week 3 January 30 th	Chapter 1: Functions and Their Graphs <ul style="list-style-type: none"> • Pages 80 – 86 • <i>Section 1.4</i>: Library of Functions; Piecewise-defined Functions 	<ul style="list-style-type: none"> • MML 1.2 • MML 1.3
Week 4 February 4 th	Chapter 1: Functions and Their Graphs <ul style="list-style-type: none"> • Pages 90 – 99 • <i>Section 1.5</i>: Graphing Techniques - Transformations 	<ul style="list-style-type: none"> • MML 1.4
Week 4 February 6 th	Chapter 2: Linear and Quadratic Functions <ul style="list-style-type: none"> • Pages 123 – 129 • <i>Section 2.1</i>: Properties of Linear Functions and Linear Models 	<ul style="list-style-type: none"> • MML 1.5
Week 5 February 11 th	Chapter 2: Linear and Quadratic Functions <ul style="list-style-type: none"> • Pages 141 – 149 • <i>Section 2.3</i>: Quadratic Functions and Their Zeros 	<ul style="list-style-type: none"> • MML 2.1

Week 5 February 13 th	Chapter 2: Linear and Quadratic Functions <ul style="list-style-type: none"> Pages 152 – 160 <i>Section 2.4</i>: Properties of Quadratic Functions 	<ul style="list-style-type: none"> MML 2.3 <p style="text-align: center;">NO CLASS</p>
Week 6 February 18 th	Chapter 2: Linear and Quadratic Functions <ul style="list-style-type: none"> Pages 178 – 180 <i>Section 2.7</i>: Complex Zeros of a Quadratic Function 	<ul style="list-style-type: none"> MML 2.4
Week 6 February 20 th	<ul style="list-style-type: none"> Review for Exam 1 	<ul style="list-style-type: none"> MML 2.7
Week 7 February 25 th	EXAM 1 (CHAPTERS 0, 1, & 2)	
Week 7 February 27 th	Chapter 3: Polynomial and Rational Functions <ul style="list-style-type: none"> Pages 194 – 210 <i>Section 3.1</i>: Polynomial Functions and Models 	
Week 8 March 3 rd	Chapter 3: Polynomial and Rational Functions <ul style="list-style-type: none"> Pages 215 – 223 <i>Section 3.2</i>: Properties of Rational Functions 	<ul style="list-style-type: none"> MML 3.1 <p style="text-align: center;">NO CLASS</p>
Week 8 March 5 th	Chapter 3: Polynomial and Rational Functions <ul style="list-style-type: none"> Pages 226 – 237 <i>Section 3.3</i>: The Graph of a Rational Function 	<ul style="list-style-type: none"> MML 3.2 <p style="text-align: center;">NO CLASS</p>
Week 9 March 10 th	Chapter 3: Polynomial and Rational Functions <ul style="list-style-type: none"> Pages 248 – 258 <i>Section 3.5</i>: The Real Zeros of a Polynomial Function 	<ul style="list-style-type: none"> MML 3.3
Week 9 March 12 th	Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> Pages 275 – 279 <i>Section 4.1</i>: Composite Functions Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> Pages 282 – 291 <i>Section 4.2</i>: One-to-One Functions; Inverse Functions 	<ul style="list-style-type: none"> MML 3.5
Week 10 March 17 th	Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> Pages 297 – 307 <i>Section 4.3</i>: Exponential Functions 	<ul style="list-style-type: none"> MML 4.1 MML 4.2
Week 10 March 19 th	Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> Pages 312 – 321 <i>Section 4.4</i>: Logarithmic Functions 	<ul style="list-style-type: none"> MML 4.3
March 24 th	SPRING BREAK!	
March 26 th	SPRING BREAK!	

Week 11 March 31 st	Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> • Pages 325 – 331 • <i>Section 4.5: Properties of Logarithms</i> Chapter 4: Exponential and Logarithmic Functions <ul style="list-style-type: none"> • Pages 334 – 338 • <i>Section 4.6: Logarithmic and Exponential Equations</i> 	<ul style="list-style-type: none"> • MML 4.4
Week 11 April 2 nd	<ul style="list-style-type: none"> • Review for Exam 2 	<ul style="list-style-type: none"> • MML 4.5 • MML 4.6
Week 12 April 7 th	EXAM 2 (CHAPTERS 3 & 4)	
Week 12 April 9 th	Chapter 5: Trigonometric Functions <ul style="list-style-type: none"> • Pages 378 – 387 • <i>Section 5.1: Angles and Their Measure</i> Chapter 5: Trigonometric Functions <ul style="list-style-type: none"> • Pages 391 – 399 • <i>Section 5.2: Right Triangle Trigonometry</i> 	
Week 13 April 14 th	Chapter 5: Trigonometric Functions <ul style="list-style-type: none"> • Pages 403 – 410 • <i>Section 5.3: Computing the Values of Trigonometric Functions of Acute Angles</i> Chapter 5: Trigonometric Functions <ul style="list-style-type: none"> • Pages 414 – 422 • <i>Section 5.4: Trigonometric Functions of Any Angle</i> 	<ul style="list-style-type: none"> • MML 5.1 • MML 5.2
Week 13 April 16 th	Chapter 5: Trigonometric Functions <ul style="list-style-type: none"> • Pages 424 – 432 • <i>Section 5.5: Unit Circle Approach; Properties of the Trigonometric Functions</i> 	<ul style="list-style-type: none"> • MML 5.3 • MML 5.4
Week 14 April 21 st	Chapter 6: Analytic Trigonometry <ul style="list-style-type: none"> • Pages 478 – 487 • <i>Section 6.1: The Inverse Sine, Cosine, and Tangent Functions</i> 	<ul style="list-style-type: none"> • MML 5.5
Week 14 April 23 rd	Chapter 6: Analytic Trigonometry <ul style="list-style-type: none"> • Pages 496 – 501 • <i>Section 6.3: Trigonometric Equations</i> 	<ul style="list-style-type: none"> • MML 6.1
Week 15 April 28 th	<ul style="list-style-type: none"> • Review for Exam 3 	<ul style="list-style-type: none"> • MML 6.3
Week 15 April 30 th	EXAM 3 (CHAPTERS 5 & 6)	