COURSE SYLLABUS

School Year	2025 - 2026
Subject	PreCalculus
Grade Level	11
Teacher	Ms. Yvonne Lee
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COURSE DESCRIPTION:
Pre-Calculus serves as a transition between algebra and calculus. This course covers many important fundamental concepts that will prepare students for calculus and college-level mathematics. Students are expected to understand, analyze, and utilize basic functions. They are also expected to understand the relationship between exponential functions and logarithm. Trigonometric functions and identities will be included and students are expected to graph and analyze graph and prove identities. Analytic geometry in two dimension and discrete mathematics will also be covered.

COURSE OBJECTIVES: By the end of the semester/school year, (SWAT) Students will be able to:

CCSS: Mathematics
CCSS: HS: Algebra
Seeing Structure in Expressions
HSA-SSE.A. Interpret the structure of expressions.
HSA-SSE.B. Write expressions in equivalent forms to solve problems.

CCSS: HS: Functions
Interpreting Functions
HSF-IF.B. Interpret functions that arise in applications in terms of the context.
HSF-IF.C. Analyze functions using different representations.

Linear, Quadratic, and Exponential Models
HSF-LE.A. Construct and compare linear and exponential models and solve problems.
HSF-LE.B. Interpret expressions for functions in terms of the situation they model.

Trigonometric Functions
HSF-TF.A. Extend the domain of trigonometric functions using the unit circle.
HSF-TF.B. Model periodic phenomena with trigonometric functions.

CCSS: HS: Num/Quantity
Vector & Matrix Quantities
HSN-VM.A. Represent and model with vector quantities.
   HSN-VM.B.4b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
HSN-VM.C. Perform operations on matrices and use matrices in applications.
   HSN-VM.C.6. (+) Use matrices to represent and manipulate data, e.g., to represent

CCSS: HS: Functions
Trigonometric Functions
HSF-TF.C. Prove and apply trigonometric identities.
 HSF-TF.C.8. Prove the Pythagorean identity $\sin^2(x) + \cos^2(x) = 1$ and use it to calculate trigonometric ratios.
   HSF-TF.C.9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

CCSS: HS: Geometry
Similarity, Right Triangles, & Trigonometry
HSG-SRT.C. Define trigonometric ratios and solve problems involving right triangles
 HSG-SRT.C.7. Explain and use the relationship between the sine and cosine of complementary angles.
HSG-SRT.D. Apply trigonometry to general triangles
HSG-SRT.D.10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.
HSG-SRT.D.11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
Expressing Geometric Properties with Equations
HSG-GPE.A. Translate between the geometric description and the equation for a conic section

CCSS: HS: Stats/Probabilities
Using Probability to Make Decisions
HSS-MD.A. Calculate expected values and use them to solve problems

Mathematical Practice
MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.
MP.2. Reason abstractly and quantitatively.
MP.4. Model with mathematics.
MP.5. Use appropriate tools strategically.

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PRIMARY TEXTBOOKS AND OTHER RESOURCES:
- Textbook – Ron Larson, Paul Battaglia. PreCalculus with Limits: A Graphing Approach 8th ed. 2020.
- Ti-nspireCX Graphing calculator
- Khan Academy

GRADING SYSTEM/ASSESSMENT:

1. Tests and Pop Quizzes	30%
2. Homework/Classwork/Seatwork /Projects	30%
3. Quarterly Exam	30%
4. Deportment	10%
Total Grade	100%

ADDITIONAL INFORMATION:
Please always check Google Classroom for homework and announcements.

ACADEMIC DISHONESTY:
Academic Dishonesty means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at DIS.
Academic dishonesty includes but is not limited to the following:
- Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's work;
- Representing another's intellectual work, such as photographs, paintings, drawings, sculpture, research, or the like, as one's own, including failure to attribute content to an AI.
- Employing a tutor, using Artificial Intelligence without acknowledgment, getting a parent to write a paper or do an assignment, and paying for an essay to be written by someone else and presented as the student's work.
- Committing any act that a reasonable person would conclude, when informed of the evidence, to be a dishonest means of obtaining or attempting to obtain credit for academic work.

Any act of academic dishonesty will result in an automatic zero on the entire assignment/learning task.

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First Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
Week 1 (August 12 to 15) **4 days of class** 12-General Assembly at the Gymnasium 15-Opening Mass & Assumption of Our Lady	1.1 Lines in the Plane 1.2 Functions
Week 2 (August 18 to 22) 18-St. Dominic de Guzman Feast Day Celebration) Integrated during the Monday Assembly 20- House Shirt & Blue Jeans Day Starts 22- Club Orientation and Club Sign-up	1.3 Graphs of Functions 1.4 Shifting, Reflecting, and Stretching Graphs
Week 3 (August 25 to 29) 27- High School Talk - "Kickstart Your Success: Winning Mindsets for a Great School Year" 29- First Club Meeting	1.5 Combinations of Functions 1.6 Inverse Functions 1.7 Linear Models and Scatter Plots
Week 4 (September 1 to 5) 1- Launching of the World Day of Prayer for the Care of Creation (During the Monday Assembly) 1-AP Registration 3- AEO Fall University Fair 5- House Ceremony	Chapter 1 Test 2.1 Quadratic Functions 2.2 Polynomial Functions of Higher Degree
Week 5 (September 8 to 12) 8- Holy Mass: Nativity of the Blessed Virgin Mary & VIP Induction 10- House Mini Games Start	2.3 Real Zeros of Polynomial Functions 2.4 Complex Numbers
Week 6 (September 15 to 19) 15- Catholic Bridge Program for all New Students (After the Monday Assembly at the Gymnasium) 19- Athletics / Sports Orientation 19- PSAT/NMSQT Registration deadline	2.5 The Fundamental Theorem of Algebra 2.6 Rational Functions and Asymptotes
Week 7 (September 22 to 26)	2.7 Graphs of Rational Functions 2.8 Quadratic Models

22- Celebration of the International Day of Peace-Peace Pole Ceremony (During the Monday Assembly) Teacher's Day Celebration & 26- Teachers' Appreciation 26- Grade 12 Career Educational Trip 24 to 26-Pre-Exam Days	
Week 8 (September 29 to October 3) 29- Launching of the Month of the Holy Rosary (During the Monday Assembly) Oct. 1-2- First Quarter Exam (half day)	**Quarter Exam**
Oct. 3-DIS Teachers and Staff Recognition Day/ Record Day Recollection for Aunties and Uncles (no classes for students)	

Second Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
6-Moon Festival (no classes)	
7-9 Teacher's Conference (no classes)	
Week 1 (11) (October 13 to 17) 13- Second Quarter Begins 13- Start of New Applicant Enrollment for 2nd Semester 14- Visit of Mother Mary to Classrooms (During the morning prayer) 15- AP Exam Only Registration Deadline 15- Monthly Career Talk - College Prep 17- PSAT/NMSQT Digital Exam	4.1 Radian and Degree Measure 4.2 Trigonometric Functions: The Unit Circle
Week 2 (12) (October 20 to 24) 20- Jubilee: Marian Exhibit Opening (After the Monday Assembly) 20- Campus Safety Talk for Students 24- Book Fair (Senior Escape Room)	4.3 Right Triangle Trigonometry 4.4 Trigonometric Functions of Any Angle

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Week 3 (13) (October 27 to 31) 29- Grade 11 Career Educational Trip Oct. 31 to Nov. 1- Gr.6 SEL Camp	4.5 Graphs of Sine and Cosine Functions 4.6 Graphs of Other Trigonometric Functions
Week 4 (14) (November 3 to 7) 3- Feast of St. Martin de Porres Mass (integrated during the Monday Assembly) 5- Monthly Career Talk - College Prep	4.7 Inverse Trigonometric Functions 4.8 Applications and Models
Week 5 (15) (November 10 to 14) 14- Health Week 14- VIP-Parent Learning Community	5.1 Using Fundamental Identities 5.2 Verifying Trigonometric Identities
Week 6 (16) (November 17 to 21) 17- Launching of Mental Health and Anti-Bullying Month 21- Young Shakespeare Play Writing and Performing Contest	5.3 Solving Trigonometric Equations 5.4 Sum and Difference Formulas
Week 7 (17) (November 24 to 28) 24- Peace Pole Day (Monday Assembly) 24- Lighting of the Christmas Tree after school (Campus Min/ ECA/ D' Torch Orchestra/ Religious Studies) (Afternoon) 25-27- Pre-Exam Days 27- Thanksgiving Potluck after school for teachers and staff 27- Thanksgiving Family Day 28- Gr. 12 Second Quarter Exam	5.5 Multiple-Angle and Product-to-Sum Formulas Chapter 5 Test
Nov. 29 Invitation for All: The Jubilee Pilgrimage to Taipei (Saturday)	
Week 8 (18) (December 1 to 5) 1- First Week of Advent: Lighting of First Advent Candle (During the Monday Assembly) 3- Monthly Career Talk - College Prep 5- Nativity Play (Collaboration with Campus Ministry) 5- Christmas Fair Whole Day	6.1 Law of Sines 6.2 Law of Cosines
Week 9 (19) (December 8 to 12)	**Quarter Exam**

8- Foundation Day Mass, cake ceremony, and Class Party (half day) 8- Solemnity of the Immaculate Conception 8- Second Week of Advent 10- Gr. 12 Advent Immersion 11 and 12- Second Quarter Exam (half day)	

December 13 Invitation for All: Advent Recollection @DIS (Saturday)

December 15 to January 2 Christmas Break

Third Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
January 5- Record Day (No Classes for students)	
Week 1 (20) (January 5 to 9) 5- PSAT 8/9 Registration Starts 6- Third Quarter Begins 7- Monthly Career Talk-College Prep 9- New Year Mass at 8:00	6.3 Vector in the Plane 6.4 Vectors and Dot Products
Week 2 (21) (January 12 to 16) 16- Club Orientation & Sign Up	6.3 – 6.4 Quiz 3.1 Exponential Functions and Their Graphs 3.2 Logarithmic Functions and Their Graphs
Week 3 (22) (January 19 to 23) 19-23- Individual Yearbook Photoshoot for Students 19-23- Career Awareness Week 22- Grade 9 Career Educational trip 23- First Club Meeting for 2nd Semester	3.3 Properties of Logarithms 3.4 Solving Exponential and Logarithmic Equations
Week 4 (23) (January 26 to 30) 26- Feast Day of St. Thomas Aquinas/Launching of the Catholic Week 26-28- Aquinas Conference: Science and Faith 26-30- Catholic Week Activities 30- DYM Charity Concert	3.5 Exponential and Logarithmic Models 3.6 Nonlinear Models Chapter 3 Test

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Week 5 (24) (February 2 to 6) 1-4- WASC Mid-Cycle Visit 4- Monthy Career Talk - College Prep 6-7- SUAO Recollection for MS	7.1 Solving Systems of Equations 7.2 Systems of Linear Equations in Two Variables
Week 6 (25) (February 9 to 13) 9- Start of New Applicant Enrollment for 1st Semester for SY2025-26 13- PSAT 8/9 Registration Deadline 13- House Valentine's Mini Fair 13- Chinese New Year Celebration	7.3 Multivariable Linear Systems 7.4 Matrices and Systems of Equations
February 16-20 Chinese New Year Holiday	
Week 7 (26) (February 23 to 26) 23-26- IOWA Assessments 23- Student Council Application 24-26- Pre-Exam Days	7.5 Operations with Matrices 7.6 The Inverse of Square Matrix
February 27 Memorial Day Holiday (no classes)	
Week 8 (27) (March 2 to 6) 3- Monthly Career Talk - College Prep 6- PSAT 8/9 System Installation and Practice Test	7.7 The Determinant of a Square Matrix 7.8 Applications of Matrices and Determinants
Week 9 (28) (March 9 to 13) 13 and 16- Third Quarter Exam (half day)	**Quarter Exam**

Fourth Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
Week 1 (29) (March 16 to 20) 16- Third Quarter Exam (half day) 16-20- Faculty & Staff Yearbook Photo 17- Fourth Quarter Begins 18-21- EARCOS Teachers'	8.1 Sequences and Series 8.2 Arithmetic Sequences and Partial Sums

Conference 19- Lectio Divina and Feast of St. Joseph 20- Parents Learning Community Meeting 20- Kindilympics 20-House Movie Night and Club Fair	
March 21 (Saturday) Spring Fair	
Week 2 (30) (March 23 to 27) 23-27 Student Leaders Applicant Interviews 26- Annual Visit to World Religion Museum Gr. 11 27- Lower School Readers Theatre	8.3 Geometric Sequences and Series 8.4 The Binomial Theorem
March 30 to April 6 Easter/Spring Break	
Week 3 (31) (April 7 to 10) 7- Spring University Fair 9- Easter Mass 9- Easter Egg Hunt for Lower School Students	8.5 Counting Principles 8.6 Probability
Week 4 (32) (April 13 to 17) 13 Laudato Si Month Launching (During the Monday Assembly) 13-30 Laudato Si Month Activities 13-17- Class Photo Taking 17- AP Chinese/Japanese Practice Test	Chapter 8 Test 9.1 Circles and Parabolas
Week 5 (33) (April 20 to 24) 20-24 Cultural Awareness Week / Art Exhibit / Earth Week 24- Music Recital 20-24 Student Council Campaign 20-24 AP Mock Exams	9.2 Ellipses 9.3 Hyperbola and Rotation of Conics
Week 6 (34) (April 27 to 30) 27- Student Council Elections 27-30 Senior Project Presentations 28-30 Pre-Exam Days	9.4 Parametric Equations
May 1: Labor Day Public Holiday	

Week 7 (35) (May 4 to 8) 4- May Crowning & Mother's Day Celebration (During the Monday Assembly) 4-14 Final Exams (K, Gr. 5, 8, & 12 Only) 4-15 AP Exams	9.5 Polar Coordinates
Week 8 (36) (May 11 to 15) 13 and 14- Fourth Quarter Exam—Undergraduate (half day) 14-16 Student Leaders Retreat Days	**Quarter Exam**

| *May 15 Record Day (No Classes for students)*
Final Deliberation for Graduating/Promoting Classes ||

Week 9 (37) (May 18 to 22)	18- Gr. 5 Recollection & Mass 19- Gr. 8 Recollection & Mass 20- Gr. 12 Recollection 20- Baccalaureate Mass (Whole School) 18-21 WIDA Testing 19- Lower School Sports Day / Gr. 6 & 7 School Field Trip 19- Gr. 9 - 11 - "Senior Success Forum: Inspiring the Next Generation" 19-22 Student Clearance Days 21- Middle & High School Sports Day 21- High School Field Trip 22- House Culminating Activity 20-22 Final Deliberation for Non-Graduating Classes 22- Student Leaders One Day Recollection / Turn Over Ceremony
Week 10 (38) (May 25 to 29)	25- Kindergarten Graduation/Gr. 5 Promotion 26- LS Field Trip 26- Gr. 8 Graduation and Gr. 12 Graduation 27- Pre-Kindergarten & Gr. 1 - 4, 6 & 7, 9-11 Recognition Last Day of School, Report Card 28- Distribution, & Class Party (half day) 29- Last day for Teachers/Staff Meeting

"Kindling the Light of Faith, Hope, and Love: The Legacy of St. Dominic de Guzmán"