



SUBJECT: Algebra 2

GRADE LEVEL: 10

TEACHER: Joanne Ward

SCHOOL YEAR: 2024-25

EMAIL: jward@dishs.tp.edu.tw

COURSE DESCRIPTION:

Algebra 2 builds on the concepts covered in Algebra 1 and Geometry. The course covers advanced algebraic concepts and provides a foundation for higher-level mathematics courses. Topics include polynomial expressions, equations and functions, rational expressions, complex numbers, logarithms, sequences and series, and an introduction to trigonometry.

COURSE OBJECTIVES:

By the end of this course, students will be able to:

- Perform operations on polynomial, rational, and radical expressions.
- Solve various types of equations and inequalities.
- Analyze and graph polynomial, rational, exponential, and logarithmic functions.
- Understand and apply the concepts of sequences and series.
- Use trigonometric identities to solve problems.
- Apply algebraic concepts to real-world scenarios.

PRIMARY TEXTBOOK & OTHER RESOURCES:

Larson, R., & Boswell, L. (2022). *Big Ideas Math: Algebra 2*. Big Ideas Learning.

Students are required to bring laptops to class and will use following teacher's instructions.

Scientific calculators may be used if instructed by the teacher.

ASSESSMENT:

- Tests and Quizzes: 30%
 - Daily Entry Tasks: 2 points each
 - Chapter Tests: 30 points each
- Homework, Seatwork, and Projects: 30%
 - "Check Your Understanding" Reflections: 5 points each
 - Class Notes: 5 points each
- Quarter Exam: 30%
 - Service Project as a group 10%
 - Math Tasks 20%
- Department: 10%

ADDITIONAL INFORMATION:**SUBJECT: Gr.10 Algebra 2**
1st QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
<p align="center">Week 1 Aug 12th to 16th 4 Days of Class 12~ First Day / Orientation Day 15~ Opening Mass & Assumption of Our Lady 8:00 15~ Induction of Class, Student Council Officers and DYM</p>	<p>08-12-2024 1.1: Parent Functions and Transformations</p> <p>08-13-2024 1.1: Parent Functions and Transformations</p> <p>08-14-2024 1.1: Parent Functions and Transformations</p> <p>08-15-2024 1.2: Transformations of Linear and Absolute Value Functions</p> <p>08-16-2024 1.2: Transformations of Linear and Absolute Value Functions</p>
<p align="center">Week 2 Aug 19th to 23rd</p>	<p>08-19-2024 1.2: Transformations of Linear and Absolute Value Functions</p> <p>08-20-2024 1.3: Modeling with Linear Functions</p> <p>08-21-2024 1.3: Modeling with Linear Functions</p> <p>08-22-2024 1.4: Solving Linear Systems</p> <p>08-23-2024 1.4: Solving Linear Systems</p>
<p align="center">Week 3 Aug 26st to 30th 26~Fire drill? 26~Middle and High School Catholic Bridge Program (after assembly) 28~St. Dominic de Guzman Feast Day Celebration</p>	<p>08-26-2024 Ch1 Review</p> <p>08-27-2024 Ch1 Test</p> <p>08-28-2024 2.1: Transformations of Quadratic Functions</p> <p>08-29-2024 2.1: Transformations of Quadratic Functions</p> <p>08-30-2024 2.2: Characteristics of Quadratic Functions</p>
<p align="center">Week 4 Sep 2nd to 6th 2~House Ceremony</p>	<p>09-02-2024 2.2: Characteristics of Quadratic Functions</p> <p>09-03-2024 2.3: Focus of a Parabola</p>

	<p>09-04-2024 2.3: Focus of a Parabola</p> <p>09-05-2024 2.4: Modeling with Quadratic Functions</p> <p>09-06-2024 2.4: Modeling with Quadratic Functions</p>
<p>Week 5 Sep 9th to 13th 9~ Mass & Birthday Mother Mary & VIP Induction</p>	<p>09-09-2024 3.1: Solving Quadratic Equations</p> <p>09-10-2024 3.1: Solving Quadratic Equations</p> <p>09-11-2024 3.1: Solving Quadratic Equations</p> <p>09-12-2024 3.1: Solving Quadratic Equations</p> <p>09-13-2024 3.2: Complex Numbers</p>
<p>Week 6 Sep 16th to 20th 1 Day of Class 17~Moon Festival 18-20~ Teacher's Conference</p>	<p>09-16-2024 3.2: Complex Numbers</p>
<p>Week 7 Sep 23rd to 27th 24-26~Pre-Exam Days</p>	<p>09-23-2024 3.3: Completing the Square</p> <p>09-24-2024 3.4: Using the Quadratic Formula</p> <p>09-25-2024 3.4: Using the Quadratic Formula</p> <p>09-26-2024 3.4: Using the Quadratic Formula</p> <p>09-27-2024 3.5: Solving Nonlinear Systems of Equations</p>
<p>Week 8 Sep 30th to Oct 4th</p>	<p>09-30-2024 3.5: Solving Nonlinear Systems of Equations</p> <p>10-01-2024 3.6: Quadratic Inequalities</p> <p>10-02-2024 3.6: Quadratic Inequalities</p> <p>10-03-2024 Ch3 Test</p> <p>10-04-2024 Ch1-3 Review</p>

<p>Week 9 Oct 7th to 11th 1 Day of Class 7~Launching - Rosary Month and Bullying Prevention Day 8-9 ~Q1 Exams 10~Double Ten 11~Record Day</p>	<p>10-07-2024 Q1 Exam</p>
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2nd QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
<p>Week 1 (10) Oct 14th to 18th 14~ Second Quarter Begins</p>	<p>10-14-2024 4.1: Graphing Polynomial Functions</p> <p>10-15-2024 4.1: Graphing Polynomial Functions</p> <p>10-16-2024 4.2: Adding, Subtracting, and Multiplying</p> <p>10-17-2024 4.2: Adding, Subtracting, and Multiplying</p> <p>10-18-2024 4.3: Dividing Polynomials</p>
<p>Week 2 (11) Oct 21st to 25th 25 – Book Fair 25- Masquerade Night</p>	<p>10-21-2024 4.4: Factoring Polynomials</p> <p>10-22-2024 4.4: Factoring Polynomials</p> <p>10-23-2024 4.5: Solving Polynomial Equations</p> <p>10-24-2024 4.5: Solving Polynomial Equations</p> <p>10-25-2024 4.6: The Fundamental Theorem of Algebra</p>
<p>Week 3 (12) Oct 28th to Nov 1st 1-All Saint's Day Mass</p>	<p>10-28-2024 4.6: The Fundamental Theorem of Algebra</p> <p>10-29-2024 4.7: Transformations of Polynomial Functions</p> <p>10-30-2024 4.7: Transformations of Polynomial Functions</p> <p>10-31-2024 4.8: Analyzing Graphs of Polynomial Functions</p> <p>11-01-2024 4.8: Analyzing Graphs of Polynomial Functions</p>
<p>Week 4 (13) Nov 4th to Nov 8th</p>	<p>11-04-2024 4.8: Analyzing Graphs of Polynomial Functions</p>

	<p>11-05-2024 4.9: Modeling with Polynomial Functions</p> <p>11-06-2024 Ch4 Test</p> <p>11-07-2024 5.1: nth Roots and Rational Exponents</p> <p>11-08-2024 5.2: Properties of Rational Exponents and Radicals</p>
<p>Week 5 (14) Nov 11th to 15th</p>	<p>11-11-2024 5.2: Properties of Rational Exponents and Radicals</p> <p>11-12-2024 5.3: Graphing Radical Functions</p> <p>11-13-2024 5.3: Graphing Radical Functions</p> <p>11-14-2024 5.4: Solving Radical Equations and Inequalities</p> <p>11-15-2024 5.4: Solving Radical Equations and Inequalities</p>
<p>Week 6 (15) Nov 18th to 22nd 22-Gr.12 Q2 Exam 22 - YSC Contest</p>	<p>11-18-2024 5.5: Performing Function Operations</p> <p>11-19-2024 5.6: Composition of Functions</p> <p>11-20-2024 Ch5 Test</p> <p>11-21-2024 6.1: Exponential Growth and Decay Functions</p> <p>11-22-2024 6.1: Exponential Growth and Decay Functions</p>
<p>Week 7 (16) Nov 25th to 29th 25-Gr.12 Q2 Exam 26-28~Pre-Exam Day</p>	<p>11-25-2024 6.2: The Natural Base e</p> <p>11-26-2024 6.3: Logarithms and Logarithmic Functions</p> <p>11-27-2024 6.3: Logarithms and Logarithmic Functions</p> <p>11-28-2024 6.4: Transformations of Exponential and Logarithmic Functions</p> <p>11-29-2024 6.4: Transformations of Exponential and Logarithmic Functions</p>

<p>Week 8 (17) Dec 2nd to Dec 6th <u>6~Half Day</u> Foundation Day Celebrations</p>	<p>12-02-2024 6.5: Properties of Logarithms</p> <p>12-03-2024 6.6: Solving Exponential and Logarithmic Equations</p> <p>12-04-2024 6.6: Solving Exponential and Logarithmic Equations</p> <p>12-05-2024 Ch6 Test</p> <p>12-06-2024 Ch4 Review</p>
<p>Week 9 (18) Dec 9th to 13th <u>3 Days of Class</u> 12-13 ~Q2 Exams</p>	<p>12-09-2024 Ch5 Review</p> <p>12-10-2024 Ch6 Review</p> <p>12-11-2024 Q2Exam</p>
<p>Dec 16th to Jan 3rd</p>	<p>Christmas Break</p>

3rd QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
<p>Week 1 (19) Jan 6th to 10th <u>4 Days of Class</u> 6~Record Day 7~Third Quarter Begins 10 ~ New Year Mass</p>	<p>01-06-2025 7.1: Inverse Variation</p> <p>01-07-2025 7.2: Graphing Rational Functions</p> <p>01-08-2025 7.2: Graphing Rational Functions</p> <p>01-09-2025 7.3: Multiplying and Dividing Rational Expressions</p> <p>01-10-2025 7.3: Multiplying and Dividing Rational Expressions</p>
<p>Week 2 (20) Jan 13th to 17th</p>	<p>01-13-2025 7.3: Multiplying and Dividing Rational Expressions</p> <p>01-14-2025 7.4: Adding and Subtracting Rational Expressions</p> <p>01-15-2025 7.4: Adding and Subtracting Rational Expressions</p> <p>01-16-2025 7.5: Solving Rational Equations</p> <p>01-17-2025</p>

	7.5: Solving Rational Equations
Week 3 (21) Jan 20th to 24th	01-20-2025 7.5: Solving Rational Equations 01-21-2025 Ch7 Test 01-22-2025 8.1: Sample Spaces and Probability 01-23-2025 8.1: Sample Spaces and Probability 01-24-2025 8.2: Two-Way Tables and Probability
Jan 27th to Jan 31st	Chinese New Year
Week 4 (22) Feb 3rd to 7th	02-03-2025 8.2: Two-Way Tables and Probability 02-04-2025 8.3: Conditional Probability 02-05-2025 8.3: Conditional Probability 02-06-2025 8.4: Independent and Dependent Events 02-07-2025 8.4: Independent and Dependent Events
Week 5 (23) Feb 10th to 14th <i>1-14~Catholic Week</i>	02-10-2025 8.5: Probability of Disjoint and Overlapping Events 02-11-2025 8.6: Permutations and Combinations 02-12-2025 8.6: Permutations and Combinations 02-13-2025 8.6: Permutations and Combinations 02-14-2025 8.7: Binomial Distributions
Week 6 (24) Feb 17th to 21st	02-17-2025 Ch8 Test

	<p>02-18-2025 9.1: Using Normal Distributions</p> <p>02-19-2025 9.1: Using Normal Distributions</p> <p>02-20-2025 9.2: Populations, Samples, and Hypotheses</p> <p>02-21-2025 9.3: Collecting Data</p>
<p>Week 7 (25) Feb 24th to 28th <u>4 Days of Class</u> 24~Lenten Mass? 25-27 ~ Pre-Exam Days 24-27~IOWA Assessments 28 ~ Memorial Day Holiday</p>	<p>02-24-2025 9.3: Collecting Data</p> <p>02-25-2025 9.4: Experimental Design</p> <p>02-26-2025 9.5: Making Inferences from Sample Surveys</p> <p>02-27-2025 9.5: Making Inferences from Sample Surveys</p>
<p>Week 8 (26) March 3rd to 7th 5~ Ash Wednesday</p>	<p>03-03-2025 9.5: Making Inferences from Sample Surveys</p> <p>03-04-2025 9.6: Making Inferences from Experiments</p> <p>03-05-2025 Ch9 Review</p> <p>03-06-2025 Ch9 Test</p> <p>03-07-2025 10.1: Right Triangle Trigonometry</p>
<p>Week 9 (27) March 10th to 14th <u>4 Days of Class</u> 14 – Q3 Exams</p>	<p>03-10-2025 10.1: Right Triangle Trigonometry</p> <p>03-11-2025 10.2: Angles and Radian Measure</p> <p>03-12-2025 Ch7-9 Review</p> <p>03-13-2025 Q3Exam</p>

4th QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
<p>Week 1 (28) March 17th 21st <u>4 Days of Class</u> 17 – Q3 Exams 18~ Fourth Quarter Begins 18~ Fire Drill? 19~ Feast of St. Joseph</p>	<p>03-18-2025 10.2: Angles and Radian Measure</p> <p>03-19-2025 10.3: Trigonometric Functions of Any Angle</p> <p>03-20-2025 10.3: Trigonometric Functions of Any Angle</p> <p>03-21-2025 10.4: Graphing Sine and Cosine Functions</p>
<p>Week 2 (29) March 24th to 28th</p>	<p>03-24-2025 10.4: Graphing Sine and Cosine Functions</p> <p>03-25-2025 10.4: Graphing Sine and Cosine Functions</p> <p>03-26-2025 10.5: Graphing Other Trigonometric Functions</p> <p>03-27-2025 10.5: Graphing Other Trigonometric Functions</p> <p>03-28-2025 10.6: Modeling with Trigonometric Functions</p>
<p>Week 3 (30) March 31st to April 4th <u>4 Days of Class</u> 4~Tomb Sweeping</p>	<p>04-01-2025 10.7: Using Trigonometric Identities</p> <p>04-02-2025 10.8: Using Sum and Difference Formulas</p> <p>04-03-2025 Ch10 Test</p>
<p>Week 4 (31) Apr 7th to 11th</p>	<p>04-07-2025 11.1: Defining and Using Sequences and Series</p> <p>04-08-2025 11.1: Defining and Using Sequences and Series</p> <p>04-09-2025 11.2: Analyzing Arithmetic Sequences and Series</p> <p>04-10-2025 11.2: Analyzing Arithmetic Sequences and Series</p> <p>04-11-2025 11.3: Analyzing Geometric Sequences and Series</p>
<p>April 14th to April 18th</p>	<p>Easter Break</p>

<p>Week 5 (32) Apr 21st to 25th 23~Easter Mass 21-25 ~ AP Mock Exams 26~Spring Fair</p>	04-21-2025 11.3: Analyzing Geometric Sequences and Series 04-22-2025 11.4: Finding Sums of Infinite Geometric Series 04-23-2025 11.5: Using Recursive Rules with Sequences 04-24-2025 11.5: Using Recursive Rules with Sequences 04-25-2025 11.5: Using Recursive Rules with Sequences
<p>Week 6 (33) Apr 28th to May 2nd 4/29-5/1~ Pre-Exam Days 1-2~ Final Exams (K, 5, 8, 12 only)</p>	04-28-2025 11.5: Using Recursive Rules with Sequences 04-29-2025 Ch11 Test 04-30-2025 12.1: Basic Matrix Operations 05-01-2025 12.2: Multiplying Matrices 05-02-2025 12.3: Determinants and Cramer’s Rule
<p>Week 7 (34) May 5th to 9th 5-9~ Final Exams (K, 5, 8, 12 only) 5-9 ~ AP Exams</p>	05-05-2025 12.3: Determinants and Cramer’s Rule 05-06-2025 12.3: Determinants and Cramer’s Rule 05-07-2025 12.4: Inverse Matrices 05-08-2025 Ch12 Test 05-09-2025 Ch9-10 Review
<p>Week 8 (35) May 12th to 16th 4 Days of Class 14-15~ Q4 Exam 16~ Record Day 12-16 ~ AP Exams</p>	05-12-2025 Ch12 Review 05-13-2025 Q4Exam
<p>Week 9 (36) May 19th to 23rd 19-23 ~ Student Clearance 19~ Baccalaureate Mass 23~Gr. 6 – 7 Recognition and Gr. 8 Graduation</p>	

Week 10 (37)

May 26th to 30th

4 Days of Class

- 26~House Culminating Activity
- 27~Gr. 9-11 Recognition and Gr. 12 Graduation
- 28! Class Party
- 29- ~ Students Last Day
- 30~ Teachers/Staff Meeting