Course Outline***: EUCLIDEAN GEOMETRY WITH ADVANCED ALGEBRA(MATH-3)***
School Year **: 2013 – 2014**

FIRST QUARTER		
Peace Integration Theme: **Harmony with Self (Personal Peace)**		
TIME FRAME	**CONTENT**	**REFERENCES**
	HISTORY OF GEOMETRY	
Week 1	a.) The mathematicians involved in the history of geometry b.) Their contributions	*Handouts* *Ref. Book10: pages 21, 99, 125, 131, 177, 183* *Ref. Book7: pages 349, 379, 413*
	PRELIMINARY CONCEPTS	
Week 2	a) Logical Reasoning b) Building Blocks of Geometry	*TB: pages 2-12* *TB: pages 13-38*
	GEOMETRIC RELATIONS	
Week 3	a) Segment Relationships b) Points, Lines and Planes c) Postulates on Angles	*TB: pages 54-64* *TB: pages 65-71* *TB: pages 72-77*
Week 4	d) Writing a Proof e) Relationships among Angles	*TB: pages 78-88* *TB: pages 89-100*
Week 5	f) Parallel Lines g) Transversal and Special Angles h) Conditions that Guarantee Parallelism	*TB: pages 101-104* *TB: pages 105-115* *TB: pages 116-127*
	TRIANGLES AND TRIANGLE CONGRUENCE	
Week 6	a) Secondary parts of a Triangle b) Midsegments c) Congruent Figures	*TB: pages 132-136* *TB: pages 137-142* *TB: pages 143-148*
Week 7	d) Proving Triangles Congruent i. SSS Postulate ii. SAS Postulate iii. ASA Postulate	*TB: pages 149-161*
PROJECT	***"Putting Things into Perspective"*** ***(A City Block)***	

SECOND QUARTER		
Peace Integration Theme: Harmony with Creation		
TIME FRAME	**CONTENT**	**REFERENCES**
Week 1	e) Other Methods of Proving Congruent Triangles f) Theorems on Isosceles Triangles	*TB: pages 162-183* *TB: pages 184-191*
Week 2	g) Measuring Angles in Triangles h) Exterior and Interior Angles of a Triangle i) Angles of a Polygon	*TB: pages 192-197* *TB: pages 198-203* *TB: pages 204-213*
	QUADRILATERALS	
Week 3	a) Properties of Quadrilaterals b) Properties of Parallelograms c) Ways of Proving That Quadrilaterals are Parallelograms	*TB: pages 218-222* *TB: pages 222-231* *TB: pages 232-240*
Week 4	d) Special Parallelograms e) Trapezoids	*TB: pages 241-250* *TB: pages 251-260*
	SIMILARITIES	
Weeks 5	a) Ratio and Proportion b) Similar Triangles and Polygons	*TB: pages 264-270* *TB: pages 271-277*
Week 6	c) Proving Similar Triangles d) Proportional Segments e) Similarities in Right Triangles	*TB: pages 278-292* *TB: pages 293-309* *TB: pages 310-314*
Week 7	f) Some Theorem on Right Triangles g) Trigonometric Ratios (Triangle Trigonometry)	*TB: pages 315-334* *Ref. Book1: pages 305-310* *Ref. Book4: page 158* *TB: pages 335-340*
	INEQUALTIES	
Week 8	a) Inequality Symbols and Properties b) Triangle Inequality c) Inequalities in Two Triangles	*TB: pages 344-351* *TB: pages 352-361* *TB: pages 362-368*
PROJECT	***"Building Toothpick Bridges"***	

THIRD QUARTER		
Peace Integration Theme: Harmony with Others		
TIME FRAME	**CONTENT**	**REFERENCES**
	CIRCLES	
Week 1	a) Central Angles b) Inscribed Angles c) Tangents	*TB: pages 372-377* *TB: pages 378-384* *TB: pages 385-394*
Week 2	d) Chords and Arcs e) Angles Formed by Secants, Tangents and Chords f) The Power Theorems	*TB: pages 395-404* *TB: pages 405-413* *TB: pages 414-421*
	MEASUREMENT OF GEOMETRIC FIGURES	
Week 3	a) Perimeter of Polygons b) Areas of Rectangles and Squares c) Areas of Parallelograms and Triangles d) Areas of Trapezoids	*Ref. Book1: pages 79-84* *Ref. Book5: page 51* *TB: pages 462-468* *TB: pages 469-478* *TB: pages 479-483*
Week 4	e) Perimeters and Areas of Similar Polygons f) Areas of Regular Polygons g) Circumference of Circles h) Areas of Circles and Parts of Circles	*TB: pages 484-493* *TB: pages 494-499* *TB: pages 500-506* *TB: pages 507-514*
	SOLIDS	
Week 5	a) Kinds of Solids b) Surface Area of Prisms and Cylinders c) Surface Area of Pyramids and Cones d) Volume of Prisms and Cylinder e) Volume of Pyramids and Cones f) Surface Area and Volume of Spheres	*Hand-outs* *Ref. Book4: pages 233-249* *Ref. Book1: pages 361-367* *Ref. Book5: pages 528-536* *Ref. Book1: pages 368-375* *Ref. Book5: pages 537-543* *Ref. Book1: pages 376-381* *Ref. Book5: pages 544-550* *Ref. Book1: pages 382-386* *Ref. Book5: pages 551557* *Ref. Book1: pages 387-397* *Ref. Book5: pages 558-565*
	COORDINATE GEOMETRY	
Week 6	a) The Distance Formula b) Midpoints c) Slope of a Line	*TB: pages 425-430* *TB: pages 431-435* *TB: pages 436-441*
Week 7	d) Linear Equations e) Equation of a Circle	*TB: pages 442-447* *TB: pages 455-459*
PROJECT	***"ABC's of Geometry"***	

FOURTH QUARTER		
Peace Integration Theme: Living Harmoniously		
TIME FRAME	**CONTENT**	**REFERENCES**
	RELATIONS AND FUNCTIONS	
Week 1	a) Relations b) Functions	*Ref. Book6: pages 12-24* *Ref. Book8: pages 165-167* *Ref. Book6: pages 25-37* *Ref. Book8: pages 180-194* *Ref. Book11: pages 230-242* *Ref. Book13: pages 189-201*
Week 2	c) Operations with Functions d) Composite Function	*Ref. Book6: pages 73-81* *Ref. Book11: pages 258-266* *Ref. Book13: pages 217-224*
Week 3	e) Inverse Function	*Ref. Book6: pages 341-349* *Ref. Book11: pages 267-276* *Ref. Book8: pages 346-357* *Ref. Book13: pages 225-233*
	LINEAR FUNCTIONS	
Week 4	a) Definition of Linear Function b) Graph of Linear Function	*Ref. Book6: pages 88-95* *Ref. Book6: pages 96-119* *Ref. Book8: pages 195-207*
Week 5	c) Application Problems on Linear Functions	*Ref. Book6: pages 132-140*
	QUADRATIC FUNCTIONS	
Week 6	a) Identifying Quadratic Functions b) Graphing Quadratic Functions i. Finding the Domain and Range ii. Maximum and Minimum Values iii. Axis of Symmetry, Vertex, x- and y-intercepts, and Concavity(opening)	*Ref. Book6: pages 148-159* *Ref. Book6: pages 160-171* *Ref. Book11: pages 278-288* *Ref. Book8: pages 270-283* *Ref. Book13: pages 247-257*

Week 7	c) The Zeroes of Quadratic Function d) Application Problems on Quadratic Functions	*Ref. Book6: pages 172-194* *Ref. Book6: pages 195-206* *Ref. Book8: pages 291-301*
	COMPLEX NUMBERS	
Week 8	a) Imaginary Numbers b) Addition and Subtraction of Complex Numbers c) Multiplication and Division of Complex Numbers	*Ref. Book3 pages 516-517* *Ref. Book3: pages 518-519* *Ref. Book3: pages 519-521* *Ref. Book11: pages 348-357*
	CONICS	
Week 9	a) CIRCLE b) PARABOLA c) ELLIPSE d) HYPERBOLA	*Ref. Book12: pages 514-519* *Ref. Book12: pages 520-526* *Ref. Book12: pages 527-533* *Ref. Book12: pages 534-540* *Ref. Book8: pages 811-853* *Ref. Book13: pages 335-347*
PROJECT	***"AfterMATH"***	

Textbook(TB):

Oronce and Mendoza (2010). *e-Math Geometry: Revised Edition*. Rex Book Store, Inc.

Other References(OR):

1. Dilao and Quiming (2012). *Geometry: Second Edition*. Vibal Publishing House, Inc.
2. Lial, et al (2008). *Algebra: Ninth Edition*. Pearson Education South Asia Pte Ltd.
3. Lial, et al (2008). *Intermediate Algebra: Tenth Edition*. Pearson Education South Asia Pte Ltd.
4. Wheater, C. (2007). *Geometry*. The Career Press, Inc.
5. Bass, et al (2004). *Geometry*, Pearson Education South Asia Pte Ltd.
6. Esparrago and Reyes (2004). *Next Century Mathematics: Advanced Algebra, Trigonometry and Statistics*. Phoenix Publishing House
7. Bruno, L. (2003). *Math and Mathematicians Volume 2*. Thomson Gale Publisher
8. Lial, et al (2002). *College Algebra and Trigometry: 2nd Edition*. Pearson Education (Asia) Pte Ltd.
9. Senk, et al (2002). *Advanced Algebra: Second Edition*. Pearson Education Inc.
10. Bruno, L. (1999). *Math and Mathematicians Volume 1*. Thomson Gale Publisher
11. Larson, et al (1996). *College Algebra: Concepts and Models (2nd Edition)*. D. C. Heath and Company
12. Hall and Fabricant (1993). *Algebra 2 with Trigonometry*. Prentice Hall
13. Larson and Hostetler (1993). *College Algebra: 3rd Edition*. D. C. Heath and Company

Websites(WS):

1.) http://www.khanacademy.org/
2.) http://www.balucamath.tripod.com
3.) http://www.purplemath.com
4.) http://www.aaamath.com
5.) http://www.edocfind.com

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