*Approved Effective: Fall 2018*

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| **MATERIAL TO BE COVERED** | **SECTIONS FROM TEXT** | **TIME LINE** |
| INTRODUCTION TO LOGIC: Truth tables, inductive and deductive reasoning, valid arguments, symbolic logic | Appendix C,1.1 | 4 hours |
| FOUNDATIONS OF GEOMETRY: Points, planes, and lines, segments, rays, and angles, introduction to deductive proofs, formal geometric proofs, constructions of lines and angles | 1.2 – 1.7 | 4 hours |
| PARALLEL LINES AND POLYGONS: Indirect Proof, Parallel Postulate, transversals and angles, polygons and angles, more congruent triangles, symmetry and transformations(optional) | 2.1 - 2.5  Optional: 2.6 | 4 hours |
| TRIANGLES: Classifying triangles, congruent triangles, proofs involving congruence, isosceles triangles, concurrent lines, proving right triangles congruent, constructions of triangles, Inequalities involving triangles (optional) | 3.1 - 3.4  Optional: 3.5 | 4 hours |
| QUADRILATERALS: Properties and proofs involving the  parallelogram, rhombus, kite, rectangles, square, and trapezoid. | 4.1 – 4.4 | 5.5 hours |
| SIMILAR POLYGONS AND THE PYTHAGOREAN THEOREM: Ratios and proportions, similar polygons, properties of right triangles, the Pythagorean Theorem, special right triangles, segments divided proportionally | 5.1 - 5.6 | 5 hours |
| CIRCLES: Circles and arcs, chords and secants, tangents, circles and regular polygons, tangent constructions (optional) inequalities in circles (optional), locus of points (optional), concurrent lines (optional) | 6.1 - 6.3, 7.3  Optional: 6.4,7.1,7.2 | 5 hours |
| AREAS OF POLYGONS AND CIRCLES: Areas of quadrilaterals, circumference and area of a circle, area and arc length of a sector, area of regular polygons | 8.1 – 8.5 | 3 hours |
| SURFACES AND SOLIDS: Area and volume of prisms, pyramids, cylinders, and cones; spheres and polyhedrons (optional) | 9.1 - 9.3  Optional: 9.4 | 2.5 hours |
| ANALYTIC GEOMETRY (optional): Cartesian coordinate plane, distance and midpoint formulas, slope, equation of a line  TRIGONOMETRY (optional): trigonometric ratios,  solving right triangles. | Optional: 10.1,10.2  Optional: 11.1-11.3 |  |

### 3-unit class: hours total 42.5 (15 x 2 hours 50 minutes) – hours for exams + 2.5 hour final

4.5 hours are reserved for exams, 1 hour for optional topics

Students should receive an introduction to an axiomatic system and to deductive reasoning skills. Proofs should be an important part of this course. Students should know the facts of geometry and be able to show evidence on tests of being able to write both formal and informal proofs.

Submitted by: Childress, Summers, Pyle, Tamayo, Troxell, Zicree

Math Department Policy can be found at: https://mtsac.instructure.com/courses/33990/files?preview=1988385