



COURSE OUTLINE

SECTION I: BASIC COURSE INFORMATION

- COLLEGE:** Pierce
- SUBJECT (DISCIPLINE) NAME**¹ (40 characters, no abbreviations): Math
- COURSE NUMBER:** 120
- COURSE TITLE:** Plane Geometry
- UNITS:** 5.00
- CATALOG COURSE DESCRIPTION** -- Provide a description of the course, including an overview of the topics covered:

Covers an introduction to logic and the construction of a formal proof, the study of plane figures such as triangles, parallelograms and other polygons, and circles. Construction methods with compass and straight edge; computations for perimeter, area and volume.

- CLASS SCHEDULE COURSE DESCRIPTION** -- Provide a brief description of the course, including an overview of the topics covered:

Covers an introduction to logic and the construction of a formal proof, the study of plane figures such as triangles, parallelograms and other polygons, and circles. Construction methods with compass and straight edge; computations for perimeter, area and volume.

- COLLEGE APPROVAL DATE:**
- UPDATES** (check all applicable boxes):

- | | |
|--|-----------------------------------|
| <input checked="" type="checkbox"/> Content | Last Update: Jan. 17, 2005 |
| <input checked="" type="checkbox"/> Objectives | Last Update: Jan. 17, 2005 |
| <input type="checkbox"/> College Specific Course Attributes/Data Elements | Last Update: |
| <input type="checkbox"/> Districtwide Course Attributes/Data Elements | Last Update: |
| <input type="checkbox"/> Other (describe) | Last Update: |

10. CLASS HOURS:

	Hours per week (based on 18 weeks)	Total Hours per term (hrs per week x 18)	Units
Lecture:	5.00	90.00	5.00
Lab/activity (w/ homework):			
Lab/activity (w/o homework):			
Total:	5.00	90.00	5.00

¹ Underlined course attributes are the same for the course throughout the LACCD; all other course attributes are college specific.

Note: The Carnegie Rule and Title 5, section 55002 sets forth the following minimum standards: 1 unit = 1 hour lecture per week, 2 hours homework per week; **OR** 2 hours per week of lab with homework; **OR** 3 hours of lab per week without homework. The hours per week are based on a standard 18-week calendar. Lecture also includes discussion and/or demonstration hours, laboratory includes activity and/or studio hours.

11. PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, and LIMITATION ON ENROLLMENT

Note: The LACCD's *Policy on Prerequisites, Corequisites and Advisories* requires that the curriculum committee take a separate action verifying that a course's prerequisite, corequisite or advisory is an "appropriate and rational measure of a student's readiness to enter the course or program" and that the prerequisite, corequisite or advisory meets the level of scrutiny delineated in the policy.

Prerequisites: **Yes** (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)
Math	115	Elementary Algebra	5	
Elementary algebra placement exam				

Corequisite: **None** (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)

Advisories: **None** (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)

12. OTHER LIMITATIONS ON ENROLLMENT (see Title 5, section 58106 and Board Rule 6803 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

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SECTION II: COURSE CONTENT AND OBJECTIVES

1. COURSE CONTENT AND OBJECTIVES:

COURSE CONTENT AND SCOPE – Lecture: If applicable, outline the topics included in the lecture portion of the course (<i>Outline reflects course description, all topics covered in class.</i>)	Hours per topic	COURSE OBJECTIVES - Lecture (<i>If applicable:</i> upon successful completion of this course, the student will be able to... (<i>Use action verbs – see Bloom's Taxonomy below for "action verbs requiring cognitive outcomes."</i>))
1. Deductive reasoning, including converse, inverse, if and only if statements, inferences and deduction, and axiomatic proofs	17	Upon completion of this course, the student will be able to: 1. Recognize basic geometric objects, including points, lines, planes, angles, segments, triangles, circles, and parallelograms 2. Analyze geometric relationships and prove theorems concerning triangles, parallelograms, circles, etc. 3. Employ conditional "If..then.." statements in formulating proofs, and be able to distinguish a conditional statement from its converse 4. Model and solve geometric problems algebraically 5. Use geometric tools to construct geometric figures and measure angles 6. Compute the perimeter, area and volume of various geometric figures 7. Employ the Pythagorean Theorem to solve applications
2. Lines, line segments and their properties	15	
3. Triangles, including congruence, similarity and inequality relationships	12	
4. Quadrilaterals, including parallelograms and trapezoids	10	
5. Polygons	6	
6. Circles	10	
7. Perimeter, Area, Volume	3	
8. Pythagorean Theorem	2	
9. Constructions	15	
Total lecture hours*	90	

*Total lecture and laboratory hours (which includes the final examination) must equal totals on page 1.

2. REQUIRED TEXTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Elementary Geometry, Gustafson;
 Discovering Geometry, Serra

3. SUPPLEMENTARY READINGS:

Reading assignments may include, but are not limited to the following:

4. WRITING ASSIGNMENTS:

Title 5, section 55002 requires grades to be "based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students." Writing assignments in this course may include, but are not limited to the following:

Writing assignments in this course include, but are not limited to, problem solving exercises.

5. REPRESENTATIVE OUTSIDE ASSIGNMENTS:

Out of class assignments may include, but are not limited to the following:

6. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Title 5, section 55002(a) requires that a degree applicable course have a level of rigor that includes "critical thinking and the understanding and application of concepts determined by the curriculum committee to be at college level". Critical thinking may include, but is not limited to analysis, synthesis, and evaluation. Provide examples of assignments that demonstrate critical thinking.

Writing assignments involve problem solving and analysis. For example: "Suppose that two sides of a quadrilateral are parallel and that one diagonal bisects an angle. Does that quadrilateral have to be special in other ways? Explain."

7. METHODS OF EVALUATION:

Title 5, section 55002 requires grades to be "based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students." Methods of evaluation may include, but are not limited to the following (please note that evaluation should measure the outcomes detailed "Course Objectives" at the beginning of Section II):

- 1.Quizzes and exams (including a final exam)
- 2.Homework
- 3.Computer projects
- 4.Portfolios or journals

8. METHODS OF INSTRUCTION:

Methods of instruction may include, but are not limited to the following:

- Lecture
- Discussion
- Laboratory
- Activity
- Field Experience
- Independent Study
- Other (explain)

Video presentations;
computer assignments

9. SUPPLIES:

List of supplies the student must provide.

- 1.Compass and straight edge
- 2.Protractor

10. COMPUTER COMPETENCY:

If applicable, explain how computer competency is included in the course.