

PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

**GEOMETRY FOR TEACHERS
MATH 1420**

Class Hours: 3.0

Credit Hours: 3.0

Laboratory Hours: 0.0

Revised: Fall 2011

Catalog Course Description:

Topics include two- and three-dimensional geometry, congruence and similarity, constructions, transformations, area, volume, surface area and measurements, with an emphasis on mathematical understanding necessary to teach effectively.

Entry Level Standards:

Students must be able to read at the college level.

Prerequisites:

High school algebra I and algebra II and geometry and ACT math score of at least 19; or Transitional Studies math requirements or equivalent math placement score.

Textbook(s) and Other Reference Materials Basic to the Course:

Textbook:

Bassarear, Tom. *Mathematics for Elementary School Teachers*. 5th Edition, Brooks/Cole Publishing, 2012.

Required Supplies:

Scientific calculator with fractional capabilities is required. A graphing calculator such as the TI-84 or TI-84 Plus is recommended.

I. Week/Unit/Topic Basis:

Week	Topic
1	Basic Ideas and Building Blocks of Geometry
2	Attributes of Triangles
3	Attributes of Quadrilaterals
4	Three Dimensional Figures
5	Review, Exam 1
6	Congruence Transformations

- 7 Reflection and Rotation Symmetry
- 8 More Symmetry and Tessellations
- 9 Similarity
- 10 Review, Exam 2
- 11 Systems of Measurement
- 12 Perimeter and Area
- 13 Surface Area, Volume
- 14 Exam 3, Review for Final
- 15 Comprehensive Final Exam

II. Course Goals*:

- A. Master the critical thinking skills necessary to interpret set notation and Venn diagrams. VI.2, 3, 6
- B. Understand mathematical reasoning in order to read, comprehend, and construct mathematical arguments. VI.1, 2
- C. Understand the real life applicability of geometry. VI. 3,6
- D. Gain experiences in measurement, using metric and standard units. VI. 3, 4
- E. Master classifications of 2 and 3 dimensional figures, and know their properties and relationships. VI. 1, 3, 4, 5
- F. Learn the relevant parts of geometric forms and their measures. VI. 3, 4
- G. Understand the different types of transformations and how we use them every day. VI. 3, 4,

*Roman numerals after course objectives reference goals of the Mathematics program (Career Program Goals and General Education Goals are listed http://www.pstcc.edu/departments/curriculum_and_instruction/syllabi/)

III. Expected Student Learning Outcomes*:*:

The student should be able to:

1. Describe points, curves, and planes. F

2. Measure line segments and angles. F
3. Understand definition of all polygons and their classifications. E, F
4. Understand and use the Pythagorean Theorem. E, F
5. Understand what congruence and similarity mean. C
6. Discover and apply definition and properties of parallel lines and transversals. C, F
7. Calculate the perimeter and area of parallelograms, triangles, trapezoids, regular polygons, and composite figures. E, F
8. Apply numerical relationships in similar figures, ratios and proportions, and triangles. E, F
9. Understand definitions of circles and three dimensional geometry. F
10. Calculate the surface area and volume of prisms, pyramids, cylinders, cones, and composite figures. F
11. Understand the different types of transformations and symmetries. F
12. Communicate about different methods of solving problems. F
13. Consider data from other areas and subjects F
14. Recognize connections between various geometrical ideas and areas such as science, art, and landscaping F
15. Utilize manipulatives to model math algorithms and problem solving. F

*Letters after performance expectations reference the course objectives listed above.

IV. Evaluation:

A. Testing Procedures:

Students are evaluated primarily on the basis of tests, quizzes, homework, portfolio, projects, and/or a comprehensive final exam. A minimum of 3 major tests (in addition to the final) is recommended.

B. Laboratory Expectations: 0% of grade or instructor's discretion

Students will be expected to keep a portfolio of all laboratory experiments and projects. The portfolio will serve as a collateral file of future teaching references.

C. Field Work:

N/A

D. Other Evaluation Methods:

Excessive absences may lower the final grade.

E. Grading Scale:

93 - 100	A
88 - 92	B+
83 - 87	B
78 - 82	C+
70 - 77	C
60 - 69	D
Below 60	F

V. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of the Learning Division, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of the Learning Division.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

C. Accommodations for Disabilities:

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at www.pstcc.edu/departments/swd/.

D. Other Policies:

Make-up work: Instructor discretion about make-up tests and/or assignments.

Cell phones: Cell phones are to be either turned off or put in vibration mode while in class. Instructor discretion as to penalty.