

**Sierra College  
Math B  
Plane Geometry  
Fall Semester  
2018**

**Instructor:**

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**Course Identification:**

Math B, Plane Geometry  
Course Code #81587  
V321, MW 9:30-11:35  
4 units

**Materials:**

Text: Elementary “Geometry for  
College Students, 6<sup>th</sup> edition,  
by Alexander and Koeberlein  
Brooks/Cole

Calculator: A scientific calculator is required. In addition, a graphing calculator is recommended. Either a graphing calculator or a computer algebra system will be used periodically in the classroom for demonstration purposes. The graphing utility device is an excellent tool for acquiring the understanding of many of the concepts of this course due to its ability to rapidly investigate both the numerical and graphical aspects of these concepts. However, on many exams and quizzes, a calculator will not be allowed. In addition, a compass and protractor will be required.

**Office Hours:**

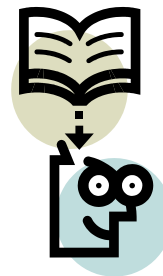
MW: 11:45-12:15,  
TTh: 9:30-12:30,  
Office hours will be held in the Math  
Lab, V329.

**Math Lab:**

The Math Lab is located in V329  
This is free, walk in tutoring.  
Hours: TBA

**Prerequisites:**

Completion of Math A or placement  
by matriculation assessment process.



**Withdraw Date:**

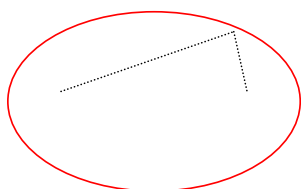
**Holidays:**

September 3 without a W  
October 30 with a W

September 3, Labor Day  
November 12, Veterans Day

### Workload:

The material is treated with a scope and intensity that requires the student to study independently outside of class. This course requires a minimum of two hours of work outside the classroom for every one hour in class.



### Homework:

Homework will be assigned daily, but will not be collected. Instead, a quiz will be given each Wednesday (except those days on which we have an exam) covering the material from the previous homework.

### Exams:

There will be four 100 point exams and a 150 point comprehensive final exam. The lowest of the four regular exam scores or the Quiz Total will be dropped in the computation of the final course grade. The exam dates are given below:

Exam I: September 5  
Exam II: September 26  
Exam III: October 17  
Exam IV: November 7  
Final Exam: December 5

### Attendance:

Attendance is not incorporated in the final course grade. Nevertheless, a solid attendance record is necessary to succeed in a course that is both rigorous and fast paced.

### Grading:

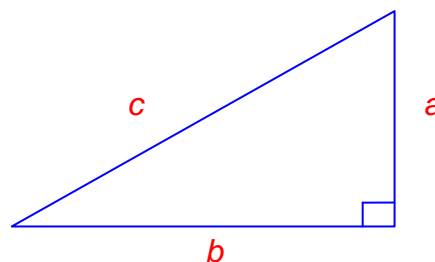
Quizzes: 100 pts  
Exams: 400 pts  
Final Exam: 150 pts

### Quizzes:

There will be more than 10 quizzes, worth 10 points each. The top 10 scores will be used in the computation of your final course grade.

### Group Work:

Working with other students outside of class is strongly encouraged. The Math Lab is an ideal location for working with your peers.



$$a^2 + b^2 = c^2$$

### Student Outcomes:

Through homework assignments, quizzes, exams, projects and classroom discussions, the student will:

- I. Logically present clear, complete, accurate, and sufficiently detailed solutions to communicate reasoning and demonstrate the method of solving problems.
- II. Construct deductively valid proofs of theorems by using definitions, postulates, and previously proven theorems.
- III. Using a compass and straightedge construct standard geometric figures: duplicated angle, duplicated line segment, angle bisector, perpendicular bisector, equilateral triangle, square, and the incenter, circumcenter, orthocenter, and centroid of a triangle.

### Honesty Policy:

Cheating is of course forbidden. College policy on cheating, as outlined in the student conduct code, will be strictly enforced.

### Drop/Refunds:

A student must drop him/herself in order to be eligible for a refund. Instructor drops do not generate refunds.

### Harassment and Discrimination:

### Topical Outline:

- I. Geometric Proofs and Logic
  - a. Direct Proof
  - b. Indirect Proof
- II. Concepts of and Differences between
  - a. Definitions
  - b. Axioms
  - c. Postulates
  - d. Theorems and the use of these in proofs.
- III. Angles and Lines, Measurement, betweenness, construction
- IV. Triangles
  - a. Sum of angles, area
  - b. Congruence, corresponding parts
  - c. Isosceles, equilateral
  - d. Similar Ratio, proportion
  - e. Right, Pythagorean Theorem
  - f. Special right triangles - 30-60-90, 45-45-90
- V. Constructions
- VI. Quadrilaterals
  - a. Perimeter
  - b. Area
  - c. Construction
- VII. Polygons
  - a. Perimeter
  - b. Area
  - c. Construction
- VIII. Circles
  - a. Angles
  - b. Circumference
  - c. Area
  - d. Other related topics such as arcs, sectors, chords, and tangents.

### Other Services:

The college tutor lab, in which one-on-one tutoring arrangements can be made, is located in the LRC 402. The proctoring center is located in LRC 441. A student ID must accompany the student if services here are accessed.

Sierra College is committed to providing a safe learning environment, free of harassment and discrimination as described in District policies found on our website. It is my goal that you feel you can share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings and I will seek to keep information you share private to the greatest extent possible; however, I am required to report information about incidents of gender based discrimination, violence and harassment to the College's Title IX Coordinator.

*If You Want Your Work to be Graded, Then the Following Must Be Followed:*

- Remove any fringe from paper torn out of spiral notebook.
- Do not use graph paper unless it is used solely for graphing.
- All work must be clear and organized.
- A full name must be included.
- Any take home work must be turned in at the very beginning of class on the next class meeting. No late materials will be accepted.
- All paper turned in must be on paper that is approximately 8½ X 11.