Google Math 101: Euclidean Geometry

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John Paul II Junior College Course Outline

Course Code: MATH101
Course Title: Euclidean Geometry
Semester/Year: 1st Semester/1st Year
Instructor's Name: Ms. Nitya Mathew
Required Text: Book 1 of Euclid's *Elements*

Course Description

What it is?

In this course, students will study the first book of Euclid's Elements and more if time permits, which will provide exposure to fundamental definitions, postulates, common notions, and rigorously proven theorems of Geometry. Students will learn to demonstrate a proposition, indirectly learning argument construction and analysis.

Course Rationale

Why is it important?

Mathematics is not just about carefully following rules. It is a system of thought in which you can figure out what is true on your own, without needing to rely on books, teachers and other authorities.
Euclid presents a small list of facts, called axioms, which could be verified by others experimentally. By logical reasoning, he then argued that a complex collection of other facts could be deduced from those axioms alone.
This process of deduction and reasoning in understanding his proofs will help students learn to

1. Recognize the starting point of their logical argument (Point A)
2. Recognize the goal they want to achieve (Point B), and
3. Go from point A to point B by the use of correct reasoning

The study of Euclid's Elements trains the mind in habits of logical thinking and precision, to formulate it's own thoughts and also recognize the gaps in less sound arguments of others, developing the habit of critical thinking in general.

Therefore, in understanding Euclid's propositions and his reasoning, we can better determine what is and is not true well beyond geometry.

Course Goals/Objectives

What will I learn?

Upon the completion of this course, students should have acquired

1. Ability to clearly demonstrate a geometrical proposition in the Euclidean style.
2. Ability to discuss the principles at work in the proposition, and the more general truths of geometry.
3. Gain the skill to establish knowledge through self-evident truths and think critically about aspects outside of geometry and math.

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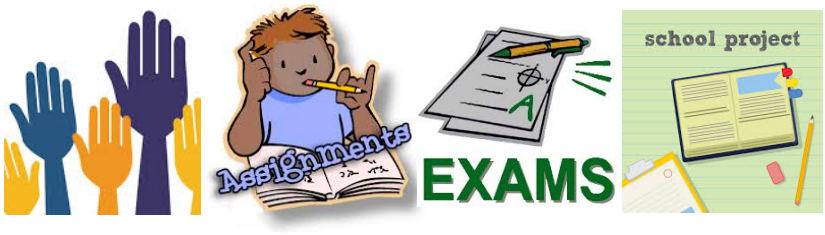
Evaluation and **Grading Scheme**



A	95-100	**C+**	75-79
A-	90 -94	**C**	70-74
B+	85-89	**D+**	65-69
B	80-84	**D**	60-64
C+	75-79	**F**	0-59

Students will be assessed based on the following criteria: **Participation/Daily Demonstration (10%), Weekly Quizzes (20%), Assignments (20%), Midterm Exam (20%), Final Project (30%)**

Course Details

What's the plan? ▾

Book 1 of Euclid's *Elements* (provided by the teacher), outlines the fundamental propositions of plane geometry. Supplemental material might be used if necessary and will be provided by the teacher. Following books of the *Elements* will be explored if time permits.

Quizzes will be given every Thursday at the beginning of the class.

Assignments will be graded based on completion. Time will be allowed, if it permits, towards the end of class, but will be turned in at the beginning of the next class.

There will be opportunities for extra credit, which will be made available throughout the semester (up to 5%).

Course Policy

Tips for success! ▾

You are encouraged to work together but your written work must be in your own words, and you must indicate working partners and other sources. Academic integrity is taken very seriously in this course.

Attendance is vital. If you have a valid reason, inform the teacher prior to class and allowances can be made at the teacher's discretion.

Disclaimer Parts of this syllabus are subject to change or modification; topics are subject to modification. Changes will be announced in class.