

**Instructor Information:**

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**COURSE DESCRIPTION:**

IGSCE Mathematics is a two-year course aligned with the College and Career Readiness Standards for Mathematics and Cambridge IGCSE Mathematics Syllabus. The Cambridge IGCSE Mathematics is widely approved by both universities and employers for proof of mathematical understanding and knowledge.

Students will gain lifelong skills, including:

- The development of the mathematical knowledge.
- Confidence by developing a feel for numbers patterns and relationships.
- An ability to consider and solve problems and present and interpret results.
- Communication and reason using mathematical concepts.
- A solid foundation for further study.

## **SYLLABUS GOALS:**

- Develop their mathematical knowledge and oral, written and practical skills in a way that encourages confidence and provides satisfaction and enjoyment.
- Develop the ability to read mathematics as well as write and talk about the subject in a variety of ways.
- Develop a feel for numbers, carry out calculations and understand the significance of the results obtained.
- Apply mathematics in everyday situations and develop an understanding of the part that mathematics plays in the world around them.
- Solve problems, present the solutions clearly, check and interpret the results.
- Develop an understanding of mathematical principles.
- Recognize when and how a situation may be represented mathematically. Identify and interpret relevant factors and where necessary, select an appropriate method to solve the problem.
- Use mathematics as a means of communication with emphasis on the use of clear expression.
- Develop an ability to apply mathematics in other subjects, particularly science and technology.
- Develop the abilities to reason logically, to classify, to generalize, and to prove.
- Appreciate patterns and relationships in mathematics.
- Produce and appreciate imaginative and creative work arising from mathematical ideas.
- Develop their mathematical abilities by considering problems and conducting individual/cooperative enquiry and experiments, including extended pieces of work of a practical and investigative kind.
- Appreciate the interdependence of different branches of mathematics.
- Acquire a foundation appropriate to further their study of mathematics and of other disciplines.

## ASSESSMENT OBJECTIVES

- Organize, interpret and present information accurately in written, tabular, graphical and diagrammatic forms.
- Perform calculations by suitable methods.
- Use an electronic calculator and also perform some straightforward calculations without a calculator.
- Understand systems of measurement in everyday use and make use of them in the solution of problems.
- Estimate, approximate and work to degrees of accuracy appropriate to the context and convert between equivalent numerical forms.
- Use mathematical and other instruments to measure and draw to an acceptable degree of accuracy.
- Interpret, transform and make appropriate use of mathematical statements expressed in words or symbols.
- Recognize and use spatial relationships in two and three dimensions, particularly in solving problems.
- Recall, apply and interpret mathematical knowledge in the context of everyday situations.
- Make logical deductions from given mathematical data.
- Recognize patterns and structures in a variety of situations and form generalizations.
- Respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form.
- Analyze a problem, select a suitable strategy and apply an appropriate technique to obtain its solution.
- Apply combinations of mathematical skills and techniques in problem solving.
- Set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology.
- Present concise reasoned arguments to justify solutions or generalizations, using symbols, diagrams, or graphs and related explanations.

## CLASSROOM POLICIES

- **Be kind-** This includes any behavior that is harmful, obstructive, or interferes with the educational process is prohibited. All students are expected to be kind and respectful to teachers and other students.
- **Be smart** - Think about what you say and do before you act. Think about consequences and who or what you might be affecting.
- **Work Hard-** Students are responsible for showing mastery of mathematical skills throughout the year and being attentive is a great way to achieve those skills. Students are to be engaged from the beginning of class to the end. Students are expected to participate, share ideas, and be engaged in discussion throughout the class.
- **Be prepared** – I expect students to be ready to show mastery of mathematical skills attained during the class. Students will be informed of exams that will be given during the year and will have ample notice. Students are expected to record important test dates.
- **Be positive-** I will put forth my best effort to make math class an enjoyable and engaging class that you look forward coming to every day. I expect you to do the same every time you enter the room.

## ABSENCE / LATE WORK / GRADING POLICY

- It is the student's responsibility to keep track of his/her absences and make-up work. In the event that you are absent, visit my Webpage [sschaeferasuprep.weebly.com](http://sschaeferasuprep.weebly.com) where you will find the course's online plan book. You can also link directly to the page from our main ASU Preparatory Academy site: [www.asuprep.asu.edu](http://www.asuprep.asu.edu)
- If you miss a test or quiz you will need to schedule a time during Learning Lab or tutoring to make-up the work. If you need clarification about a missed assignment, please schedule a time with me before/after school.

- If a student does not submit/complete an academic assessment, a zero will be assigned and it will be marked as missing. A minimum grade of 50% will be assigned only upon submission/completion of the assessment.
- Effort work will not be accepted after the due date except in the case of an absence.
- Test corrections will be allowed within 5 days of returned test.

	Homework	Academic Assignments	Assessments
Turn in	On due date in class (when collected)	On due date in class (when collected)	On assigned date in class
Retake/Redo	<p>No retake on HW for points on HW if considered effort points.</p> <p>If academic HW assignments, they may retake/redo for points, specifications at teacher discretion.</p>	<p>In order to redo, must have turned in a full attempt*. Not all assignments will be eligible for redo, teacher discretion.</p> <p>Requirements: HW/practice or other assigned study options completed in order to be eligible for retake as well as scheduled tutoring with teacher. (amount of tutoring will be at teacher discretion)</p> <ul style="list-style-type: none"> <li>● 1 redo allowed.</li> <li>● 96% max (not eligible for A*)</li> </ul> <p>Redo must be completed within 5 school days from grade post or within timeframe as agreed upon between teacher/student . teacher.</p>	<p>Requirements: HW/practice or other assigned study options completed in order to be eligible for retake as well as scheduled tutoring with teacher. (amount of tutoring will be at teacher discretion)</p> <ul style="list-style-type: none"> <li>● 1 retake allowed.</li> <li>● 96 % max (not eligible for A*)</li> </ul> <p>Retake must be completed within 5 school days from grade post or within timeframe as agreed upon between teacher/student .</p>
Late	Effort - credit assigned at teacher discretion.	Academic - at teacher discretion late work will be accepted for reduced points, up to 5 school days late, as outlined in teacher syllabus.	<p>Sick/Documented excused absences: Completed within the amount of time absent (1 day = 1 day, 4 days= 4 days) or at teacher discretion.</p> <p>Planned absences: assessments should be taken prior to absence when possible.</p>



## PLAGIARISM:

It is the responsibility of the student to not deceive the instructor in any way in regard to the authorship of the work that he/she presents as his/her own. Consequences for plagiarism will be in accordance with the ASU Preparatory student code of conduct. Plagiarism will be reported to the administration.

## CLASSROOM PROCEDURES

- When entering the classroom students will wait till the teacher has signaled to come in.
- No food, drink, gum, or candy in class.
- Be prepared to take notes daily.
- Remain in assigned seat unless directed otherwise. Pencil sharpening, throwing away papers, etc. will take place prior to the start of class.
- Once you have entered the classroom, you are in “learning mode” and will begin completing the daily warm-up. Socializing/horseplay will not take place within the classroom. With a limited number of minutes in the class and many objectives, we must work diligently at all times.
- You will be able to use the restroom during class, but not till after the instruction and only with permission. You will sign in and out of the classroom on the designated clipboard.

## GRADING INFORMATION

Students enrolled at ASU Preparatory Academy will receive two letter grades in each of their courses. One of the letter grades is an **academic grade** that demonstrates if the student mastered the course objectives. The second grade is an **effort grade** that could reflect attendance, participation, discussions, or completion of practice assignments. Both of the letter grades will adhere to the following scale, but only the **academic grade** will be reflected on the student’s final transcript and included in the G.P.A.

A* Exceeds Plus	97-100
A Exceeds	90-96
B Meets	80-89
C Approaches	70-79
D Approaches	60-69
F Falls Far Below	0-59

**MATERIALS: The following items are suggested for this class –**

- College ruled or graph paper notebook or you may choose to use a binder with college ruled or graph paper. Whichever you choose to use for notes it needs to be devoted to math class.
- Graph paper (if your notebook is lined).
- Folder
- Pencils
- Highlighter
- Black or blue pens
- Dry erase marker and old cloth to use as an eraser.
- Scientific calculator
- Ruler
- An open mind and positive attitude!

**COURSE SCHEDULE (Subject to Change)**

<b>Term 1 and Term 2</b>	<b>Term 3 and Term 4</b>
<ul style="list-style-type: none"><li>• Number Concepts</li><li>• Algebraic Expressions and Equations</li><li>• Straight Lines</li><li>• Linear Inequalities</li><li>• Indices (Exponents)</li><li>• Polygons</li><li>• Fractions, Percentages, and Ratios Similar Shapes and Congruence Perimeter and Area</li><li>• Pythagoras' Theorem</li><li>• Scientific Notation</li><li>• Statistics</li></ul>	<ul style="list-style-type: none"><li>• Factorization</li><li>• Probability and Statistics</li><li>• Sequences</li><li>• Surface Area and Volume</li><li>• Sets</li><li>• Simultaneous Equations</li><li>• Scatter Diagrams</li><li>• Speed, Distance, and Time</li><li>• Equations and Formulae</li><li>• Quadratic Expressions, Equations and Graphs</li><li>• Function</li></ul>

## **SYLLABUS ACKNOWLEDGEMENT:**

**Please submit the syllabus acknowledgment page at  
[sschaeferasuprep.weebly.com](http://sschaeferasuprep.weebly.com)**

Thank you,

Susan Schaefer