

Mathematics: Applications and Interpretations SL Syllabus

August 2021 – May 2022

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DESCRIPTION:

Mathematics: Applications and Interpretations SL is a standard level course that will be offered during the 11th grade year. The class is intended for a wide range of students who vary in abilities and background with regard to mathematics. The course focuses on real world application of mathematical concepts. Students will use mathematics to model, predict and analyze data that is relevant to their lives. The underlying goal is to enhance each student's appreciation of mathematics and develop mathematical thinking, often in the context of practical problems and using technology to justify conjectures.

AIMS:

The aims of all DP mathematics courses are to enable students to:

- 1) develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- 2) develop an understanding of the concepts, principles and nature of mathematics
- 3) communicate mathematics clearly, concisely and confidently in a variety of contexts
- 4) develop logical and creative thinking and patience and persistence in problem solving to instill confidence in using mathematics
- 5) employ and refine their powers of abstraction and generalization
- 6) take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- 7) appreciate how developments in technology and mathematics influence each other
- 8) appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
- 9) appreciate the universality of mathematics and its multicultural, international and historical perspectives
- 10) appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course
- 11) develop the ability to reflect critically upon their own work and the work of others
- 12) independently and collaboratively extend their understanding of mathematics

Course Outline:

The following topics will be covered throughout this course.

Topic 1: **Number and Algebra**

Topic 4: **Statistics and Probability**

Topic 2: **Functions**

Topic 5: **Calculus**

Topic 3: **Geometry and Trigonometry**

IB ASSESSMENT

External Assessment:

The final examination for DP students will be on Friday, May 13, 2022 and Monday, May 16, 2022.

Paper 1 – This assessment consists of 13 short answer response questions. Calculators are allowed and the paper lasts for 1.5 hours. The grade received on Paper 1 will contribute 40% of the students IB grade.

Paper 2 - This assessment consists of 5 extended answer questions. Calculators are allowed and the paper lasts for 1.5 hours. The grade received on Paper 2 will contribute 40% of the students IB grade.

Internal Assessment:

The internal assessment (IA) is a project in which students must design a topic question, gather data, and perform an analysis of the data in order to answer the chosen question. This project will begin in November and will be completed in April. The grade received on the internal assessment will contribute 20% of the students IB grade.

Your IA grade will also count as your final exam grade for the second semester.

CLASS EXPECTATIONS: The following class rules will be adhered to.

1. **All cell phones and smart watches** should be placed in the numbered pockets upon entering class and should be silenced. They are to remain there until you are exiting the class.
2. You should go to your assigned desk and be ready to work when the bell rings. You should have **ALL** required materials with you daily.
3. You should remain in your seat unless given permission by the teacher to get up. At no time during the class should you touch another student's desk or belongings.
4. Be attentive while others are talking.
5. No eating in class unless it is breakfast or lunch. You may have a drink as long as it is in a closable container (no can drinks).
6. Use pencils only. You should have at least two sharpened pencils during each class. If using mechanical pencils, you should have extra lead with you.
7. Show RESPECT for yourself and others.
8. Wait until the teacher has dismissed you before you prepare to leave class. The bell does not end class.

Materials Required:

- One Large 3-ring binder (at least 2 inches)
 - 8 Section Dividers
 - Notebook Paper
 - Pencils
 - TI-84 Calculator (4AAA batteries)
- * Students should have their Chromebooks with them every day and charged.

GRADE SCALE

100 – 90% = A
89 – 80% = B
79 – 70% = C
69 – 60% = D
59 – 0% = F

PERCENT OF WEIGHTED SCORES

Tests – 45%
Quizzes – 25%
Classwork – 10%
Notebook – 10%
Home Assignments – 10%

Grades will be posted in PowerSchool each week. It is the responsibility of the student and parent/guardian to monitor grades in PowerSchool.

Attendance

Good attendance is required for success in this course; however, I understand that there may be times when a student must be absent. When a student is absent from class, a video recording will be sent to the student the same day that they were absent if new material was taught. If no new material was taught, I will post in Google Classroom what they missed that particular day. Students are responsible for watching the video and completing any missed assignments before returning to class unless they have contacted me prior to their return. If a quiz or a test is given the day that they return back to class, the student is responsible for taking it unless it has otherwise been discussed with me.

Student Help

I will be available to help students or for make ups every morning during IPASS (7:50 – 8:25). I can also be available to assist students after school; however, students will need to see me about scheduling these times.

Home Assignments

Students will be given home assignments on a regular basis. These assignments could include finishing problems from class, completing newly assignments problems, or studying their notes and example problems. Home assignments will be posted in each on their class page in Google Classroom. Completing these daily assignments can have a huge impact on a student's success in this course.

By signing this form, you are stating that you have read and understand the grading policies, expectations, and classroom procedures for Mathematics: Applications and Interpretations SL.

Student Name (Printed): _____

Student Signature: _____ Date: _____

Parent Name (Printed): _____

Parent Signature: _____ Date: _____

Parent Preferred contact method (please check all that apply)

Parent Email: _____

Parent Phone: _____ Preferred time to call: _____

Parent/Guardian Comments: