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Mathematics Teacher

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**Syllabus: IB Mathematics Standard Level**

We follow the International Baccalaureate Mathematics SL curriculum, preparing to take the IB exam in May of your senior year. Students will also complete a mathematical exploration project. In addition to traditional mathematics content areas, the IB *Theory of Knowledge* and the Common Core State Standards mathematical practices—i.e. habits of mind—are equally important.

**Course Content**

Functions

Set theory and probability

Descriptive statistics

Trigonometry

Vectors

Sequences and series

Differential calculus

Integral calculus

**Mathematical Practices**

Make sense of problems and persevere in solving them

Reason abstractly and quantitatively

Construct viable arguments and critique the reasoning of others

Model with mathematics

Use appropriate tools strategically

Attend to precision

Look for and make use of structure

Look for and express regularity in repeated reasoning

**Textbook:** *Oxford* *Mathematics Standard Level Course Companion*

**Grades** will be based on effort, engagement, participation, collaboration, and the skills mastered (weighting: tests/exam 35%, projects 25%, participation 25%, homework 15%). Students must take good notes and maintain a notebook, which will be graded. Group work as well as individual performance is important.

**Homework** will be assigned daily. Expect to spend 30-60 minutes on homework each night.

This course is a bridge between high school and college. Students who have been successful mastering the skills of school mathematics may find that making sense of higher-level mathematics is challenging. It requires thinking for oneself, what educators call “productive struggle.” Some may wish to return to the days when the teacher “explained” things. In these days of Google and Wolfram-Alpha, however, there is little value in rote learning. This course demands more. That said…

**Help** is available at lunch and after school. Just ask!

**Mathematics Supply List**

Please make sure you have these supplies by the first week of school.

Composition Notebook (write down all key information)

Two-Pocket Folder (carry homework and handouts home and back)

Loose-leaf Paper (for anything you need to hand in)

Pencils & Pens (Blue or black pens only, just like on the exams)

Graphing Calculator: Casio or TI-83/84

(Needed for Math Class, Regents Exams, PSATs, SATs, and College)

BECA has a calculator lending program: make a deposit and borrow a calculator for your use in class and at home.

