

## **SUBJECT: MATHEMATICS IB STANDARD Analysis and Approaches**

**CO-ORDINATOR FOR 6<sup>TH</sup> FORM  
MATHEMATICS:  
Mrs N Howard:**

**SYLLABUS NUMBER:  
N/A**

### **SYNOPSIS OF CONTENT**

#### **Number and Algebra**

Arithmetic and geometric sequences  
Laws of indices and logarithms  
Proof  
Binomial Theorem and Pascal's Triangle

#### **Functions**

Domain, range, inverse, composite  
Quadratics, rational functions,  
Transformations of graphs

#### **Geometry and Trigonometry**

Coordinate geometry  
Sine and cosine rules  
Pythagorean Identity  
Solving trigonometric equations

#### **Statistics and Probability**

Data, samples  
Linear correlation  
    Pearson's PMCC  
Linear regression  
Venn diagrams  
Discrete random variables  
Binomial Distribution  
Normal Distribution

#### **Calculus**

Differentiation  
Increasing and decreasing functions  
Tangents and normals  
Integration

### **WHY STUDY THIS SUBJECT?**

- Good career opportunities
- Mathematics teaches you to think logically, to have resilience when solving problems
- gives you excellent numeracy skills and the ability to process and interpret data

People who have studied mathematics are in the fortunate position of having an excellent choice of career for example in Teaching, Insurance, Medicine, Science, Economics

### **SOME USEFUL WEBSITES**

[www.ibo.org](http://www.ibo.org)

A number of IB past exam papers can be found at:

[www.freeexampapers.com/past](http://www.freeexampapers.com/past)

### **ASSESSMENT**

20% Coursework.

This is a piece of written work that involves investigating an area of mathematics to be completed in Lower Sixth.

Two examinations at the end of the course, both of 1½ hours duration.

### **SPECIFIC MATRICULATION REQUIREMENTS**

Grade 6 or higher at GCSE Mathematics.  
You need to be a very good mathematician. It is an excellent course for students with a flair for Mathematics, but who do not need to study the subject at higher level

### **ADDITIONAL INFORMATION**

You will need to have a graphical calculator - advice will be given at start of course.