Enseignement secondaire		
Classes internationales		
	Régime anglophone	
Mathématiques		
Programme		
3IEC		

Leçons hebdomadaires: 4
Langue véhiculaire: anglais
Nombre minimal de devoirs en classe: 8 par année (dont 1 projet) / 2 par trimestre ou 3 par semestre

General comments

- The aim of the course is to prepare for the study of mathematics SL and HL in the IB Diploma Programme.
- Mathematical skills as required for admission to 3IEC.

Skills and objectives

Students should develop

- A correct and rigorous use of mathematical language.
- Effective communication.
- Problem analysis and problem solving techniques with presentation of solutions and their interpretation.
- The handling of information and data.
- An understanding and knowledge of the subject.
- Initiative in the investigation of new problems and in applying acquired knowledge to the latter.
- Develop an appreciation of the relevance and usefulness of mathematics in other disciplines and in everyday life.
- Acquire the mathematical skills required in natural sciences.

Course components

- Quadratics
- Functions
- Transforming functions
- Sequences and series
- The unit circle and radian measure
- Non-Right Angled Triangle Trigonometry
- Probability

- Two *mathematical investigations*

Effective use of information and communication technology in mathematics

The appropriate use of computers, computer applications and calculators can improve the understanding of all students. In year 9, students are expected to write their first *mathematical investigation*.

A mathematical investigation is a short report written by the student. The emphasis is on mathematical communication (including formulae, diagrams, graphs and so on), with accompanying commentary, good mathematical writing and thoughtful reflection. A student should develop his or her own focus, with the teacher providing feedback. This will allow the students to develop an area of interest for them, without a time constraint as in an examination, and will allow all to experience a feeling of success.

In addition to testing the objectives of the course, the mathematical investigation is intended to provide students with opportunities to increase their understanding of mathematical concepts and processes, and to develop a wider appreciation of mathematics.

It is intended that, by working on the mathematical investigation, students benefit from the mathematical activities undertaken and find them both stimulating and rewarding. It will enable students to acquire the attributes of the IB learner profile.

One of the objectives is to use technology accurately, appropriately and efficiently both to explore new ideas and to solve problems.

Examples include:

- Any kind of calculators, the internet, data logging devices
- Word processing packages, spreadsheets, graphics packages

The paper will be written in Microsoft Word or in a LaTeX typesetting environment possibly using spreadsheet functions from Microsoft Excel and/or the use of GeoGebra.

In year 11 students write one *mathematical investigation*.

Textbook

Mathematics Core Topics HL 1 – Haese Mathematics
ISBN: 978-1-925489-58-3

Calculator

Texas Instruments TI-Nspire CX II CAS