Deira International School

IB DP HL Applications and Interpretations HL (IB1)

📔 Summary

HL Functions

Subject	**Year**	**Start date**	**Duration**
Mathematics: applications and interpretation	IB1	Week 1, September	3 weeks

Course Part

Description
In this unit you will explore the manipulation and use of functions.

📖 Inquiry & Purpose

⑦ Inquiry / Higher Order Questions

Type	Inquiry Questions
Skills-based	Why can a many to one function not have an inverse?
Skills-based	Why is a domain so improtant to functions in a context?

🔍 Curriculum

⊕ Aims

Employ and refine their powers of abstraction and generalization

◇ Objectives

Knowledge and understanding: Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.

📑 Syllabus Content

Topic 2: Functions

SL Content

SL 2.2

Concept of a function, domain, range and graph.

Function notation, for example $f(x), \quad v(t), \quad C(n)$. The concept of a function as a mathematical model.

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Informal concept that an inverse function reverses or undoes the effect of a function.

Inverse function as a reflection in the line $y = x$, and the notation $f^{-1}(x)$

SL 2.3

The graph of a function; its equation $y = f(x)$

Creating a sketch from information given or a context, including transferring a graph from screen to paper.

Using technology to graph functions including their sums and differences.

SL 2.4

Determine key features of graphs.

Finding the point of intersection of two curves or lines using technology.

SL 2.5

Linear models. $f(x) = mx + c$

AHL Content

AHL 2.7

Composite functions in context.

The notation $(f \circ g)(x) = f(g(x))$

Inverse function f^{-1}, including domain restriction.

Finding an inverse function.

AHL 2.9

Piecewise models.

📝 ATL Skills

👣 Approaches to Learning

⚙️ Thinking

- In this unit, we will

    set students a task which required higher-order thinking skills (such as analysis or evaluation)

    build on a specific prior task

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🧑‍🔧 Developing IB Learners

⭐ Learner Profile

🔍   Inquirers

📚   Knowledgeable

💡   Thinkers