

IBICUS IB PD WORKSHOPS

in association with Innoventures Education Training Centre

DUBAI INTERNATIONAL ACADEMY AL BARSHA

20-22 September 2024

SUBJECT: Mathematics Application and Interpretation

CATEGORY: 1

WITH: Ferdi Kaya

OVERALL PURPOSE OF THE WORKSHOP

This workshop is designed to prepare participants to teach DP mathematics: applications and interpretation in a manner that supports the IB mission statement and philosophy. The workshop will focus on:

- developing an understanding of the IB mission and philosophy through the Diploma Programme model as a context for a holistic learning experience
- the *Mathematics: applications and interpretation guide* and associated internal and external assessment requirements with practice marking activities of sample student work
- structuring a course that integrates authentic assessment and encourages students to make links across the DP that will enhance their understanding
- using the programme resource centre to access IB publications and network with other IB educators
- empowering teachers to create strategies for engaging students in structured inquiry and greater critical thinking through approaches to teaching and learning skills
- the teaching of mathematical topics through a conceptual lens which creates opportunities for students to apply their mathematical knowledge in different contexts

RECOMMENDED FOR

This workshop is recommended for DP mathematics: applications and interpretation teachers new to the DP at established IB World Schools and teachers from interested or candidate schools preparing for authorization.

DAY 1 – FRIDAY 20 SEPTEMBER 2024

Time	Session	Objective	Session Content
08:30 – 08:55	ARRIVE	Arrive at Dubai International Academy Al Barsha and register for your workshop	
09:00 – 09:15		WELCOME	
09:15 – 10:35	1	<ul style="list-style-type: none"> • To introduce participants to each other and establish ground rules that promote rigorous discussion • To explore the IB mission, history, and philosophy of the IB • To discuss international-mindedness from a mathematical perspective 	General introductions, IB philosophy, learner profile, international-mindedness
10:35 – 11:00	BREAK		

11:00 – 12:20	2	<ul style="list-style-type: none"> To discuss how mathematicians work and how we want our students to learn To identify the place of ATL in the DP and its relationship with the LP To identify the main concepts in DP mathematics and how they support the development of the LP attributes To experience some of the classroom strategies that can be used to develop the ATL and LP with our students 	Approaches to teaching and learning in DP mathematics
12:20 – 13:15	LUNCH		
13:15 – 14:55	3	<ul style="list-style-type: none"> To compare and contrast the DP mathematics courses and understand what makes Mathematics: applications and Interpretation unique To gain an overview of the topics of the course To share ideas on activities that target the higher (numbered) aims To discuss how we can embed the aims in our classes and model them to our students To identify links between the aims, assessment objectives and the LP 	DP mathematics Aims and objectives, curriculum structure
14:55 – 15:20	BREAK		
15:20 – 17:00	4	<ul style="list-style-type: none"> To identify the place of the core subjects in the DP and their relationship with the LP and subjects To explore the links between mathematics and TOK, CAS, and the EE/world studies extended essay (WSEE) To familiarize participants with the TOK vocabulary our students use and the challenges they are facing 	The core Mathematics extended essay; knowledge framework for mathematics from theory of knowledge; creativity, activity, service

DAY 2 – SATURDAY 21 SEPTEMBER 2024

Time	Session	Objective	Session Content
08:30 – 09:00	ARRIVE		
09:00 – 10:40	5	<ul style="list-style-type: none"> To experience the struggle our students go through while finding a suitable topic for their exploration To discuss common pitfalls in communication, presenting mathematical ideas, and the role of the teacher in Academic honesty 	The internal assessment (part 1) Starting the internal assessment, supporting students
10:40 – 11:05	BREAK		

11:05 – 12:45	6	<ul style="list-style-type: none"> To obtain a deeper understanding of the IA criteria and how to help students understand them To practice how to apply the assessment criteria To share experiences around annotating and submitting work 	The internal assessment (part 2) Criteria and marking, academic honesty
12:45 – 13:40	LUNCH		
13:40 – 15:00	7	<ul style="list-style-type: none"> To engage in activities of inquiry-based learning with the use of technology To share ideas in which technology is used to develop students' thinking 	Technology Use of technology for applications and interpretation
15:00 – 15:25	BREAK		
15:25– 16:45	8	<ul style="list-style-type: none"> To discuss the structure of the examination papers To link the inquiry-based nature of paper 3 to ATL and emphasize its importance To learn how to work with markschemes and how to use them as an effective teaching and learning tool 	External assessment

DAY 3 – SUNDAY 22 SEPTEMBER 2024

Time	Session	Objective	Session Content
08:30 – 09:00	ARRIVE		
09:00 – 10:20	9	<ul style="list-style-type: none"> To utilize IB <i>Programme standards and practices</i> 2020 as a guide for decisions regarding the implementation of the programme To embed and plan for TOK, CAS and international-mindedness (IM) opportunities in our units To plan for the 30 hours of allocated time for 	Course design
10:20 – 10:40	BREAK		
10:40 – 12:20	10	<ul style="list-style-type: none"> To reflect on the workshop To set goals and plan for individual practice To review and share resources such as technology 	Review Reflections and review of resources