

Course Description

MEDD8915 Integrating IB Philosophy into the Teaching of Mathematics

Course description			
<p>This elective module includes an in-depth exploration into how to integrate IB DP philosophy in curriculum design, teaching and learning, assessment and research. Students will be guided on designing and refining Mathematics curriculum that reflects the overall IB DP philosophy and learner profile and at the same time aligns with the Mathematics curriculum guides. Students will also be engaged in exploring various pedagogies and technological tools to integrate IB philosophy and learner profiles in mathematics instruction. Students will explore TOK, CAS and Extended Essay in relation to Mathematics education. Furthermore, the module will also enhance students' understanding on how to reflect IB philosophy, cross-disciplinary application and learner profile in assessment design and how to design assessments that reflect IB subject matter specific assessment criteria. In this module, students may also generate a series of research questions around the integration of IB philosophy in instruction.</p>			
<p>Coursework / Examination ratio: <u> 100 </u> % Coursework, <u> 0 </u> % Examination</p>			
Course learning outcomes (CLOs)		Aligned programme learning outcomes (PLOs)	
1. Understand the core of IB philosophy		PLO 1	
2. Integrate IB philosophy into curriculum development, lesson design, class instruction and assessment		PLO 2	
3. Conduct action research on integrating IB philosophy in teaching and engage in reflective thinking		PLO 3	
Course assessment methods			
Assessment method	Type of assessment (e.g. description of assignment)	Weighting (%)	Aligned course learning outcome(s)
Group project and presentation	Students will work in groups to design a unit with instructional activities and assessment that reflect IB philosophy.	20	CLOs 2, 3
Individual summary	Write a summary and reflection on the unit design in the group project.	30	CLOs 2, 3
Individual paper	Students will work on an individual literature review project in which they select a concept related to IB and do an extensive literature review to understand the concept and based on the enhanced understanding of the concept, reflect on how it could be integrated into the teaching of Mathematics.	50	CLO 1
Course content and topics			
<ol style="list-style-type: none"> 1. Approaches to Learning (ATL) and ATL skills 2. Approaches to Teaching 3. Theory of Knowledge 4. Internal Assessment and Extended Essay 5. Teaching for Deep Understanding: Concept-based Mathematics and the current DP Maths courses 6. Use of technology for supporting the inquiry-based approach 7. Inquiry methods in the mathematics classroom 8. Inductive, inquiry learning engagement 			
Required / recommended readings and online materials			

Wells, J. (2011). International education, values and attitudes: A critical analysis of the International Baccalaureate (IB) learner profile. *Journal of Research in International Education*, 10, 174-188.

Hill, I. (2012). Evolution of education for international mindedness. *Journal of Research in International Education*, 11, 245-261.

Other additional course information

Nil