

Course Description

MEDD7102 Pedagogical Frameworks for Mathematics, Science and Related Subjects

Course description			
<p>There are a variety of pedagogy and theories employed in studies for teaching and learning. This course aims to introduce frameworks, such as, multiple representations, SOLO taxonomy, Bloom's taxonomy, Self-directed learning, variations, etc., to teachers so that they can appreciate pedagogical frameworks, apply them to their practice and enhance their critical evaluation of classroom teaching. During the course, examples from mathematics and science subjects will be used for illustration. It will cover:</p> <ul style="list-style-type: none"> • Different frameworks for teaching, learning and assessment, e.g., multiple representations, SOLO • taxonomy, Bloom's taxonomy, Self-directed learning, variations • Analysis of lessons and design of tasks from a researcher's perspectives. <p>Coursework / Examination ratio: <u>100</u> % Coursework, <u>0</u> % Examination</p>			
Course learning outcomes		Aligned programme learning outcomes (PLOs)	
1. Create fit-for-purpose visual representations for their classroom teaching and/or students' self-learning		PLO 2	
2. Evaluate the use of multiple representations in the teaching and learning of science/ math		PLO 2	
3. Apply SOLO taxonomy in or other frameworks in designing tasks and analysis of students' work for the purpose of teaching and research		PLO 2	
4. Evaluate a lesson based on various pedagogical frameworks		PLO 2	
Course assessment methods			
Assessment method	Type of assessment (e.g. description of assignment)	Weighting (%)	Aligned course learning outcome(s)
Team Workshop Presentation	Group presentation	30	CLOs 1-3
Individual Task 1	Individual	40	CLOs 1-4
Individual Task 2	Individual	30	CLOs 1-4
Course content and topics			
Introduction SOLO Taxonomy, assessment Bloom Taxonomy assessment Visualization Self-Directed Learning & Mobile learning The Six Principles of Small Class Teaching of Maurice Galton Multiple representations Theory of variation			
Required / recommended readings and online materials			
Please refer to the course outline on Moodle			
Other additional course information			
Nil			