



UNIVERSITI TEKNOLOGI MARA

MAE411: FUNDAMENTAL OF NUMBERS FOR PRIMARY SCHOOL TEACHERS

Course Name (English)	FUNDAMENTAL OF NUMBERS FOR PRIMARY SCHOOL TEACHERS APPROVED
Course Code	MAE411
MQF Credit	3
Course Description	This course discusses the mathematical content in the area of numbers which covers the topics of whole numbers, fractions, decimals, money and percentages. The students will enhance their knowledge as this course will stress on concepts rather than numbers and computations. They will also examine knowledge of children's thinking and learning of the above topics. The development of pedagogical content knowledge for each topic will be discussed in detail. The appropriate concrete materials, media and technology to introduce and develop the concepts and skills for certain topics will also be discussed
Transferable Skills	Reflective Learner Independent and Critical Thinker Expert in Field
Teaching Methodologies	Lectures, Tutorial, Web Based Learning
CLO	CLO1 Analyze the concepts of numbers and its development (Menganalisis konsep bidang nombor dan perkembangannya) CLO2 Discuss the difficulties and misconceptions faced by pupils in the learning of number concepts. CLO3 Construct pedagogical Content knowledge for concept development in numbers. CLO4 Integrate the usage of concrete materials, media and technology for the teaching of number concepts.
Pre-Requisite Courses	No course recommendations
Topics	
1. Whole Numbers 1.1) • Concepts of whole numbers 1.2) • Difficulties and misconceptions in whole numbers 1.3) • Pedagogical Content: knowledge for concept development in whole numbers. 1.4) • Integration of concrete materials, media and technology for the teaching of whole numbers.	
2. Fractions 2.1) Concept of fractions 2.2) Difficulties and misconceptions in concepts of fraction 2.3) Pedagogical Content: knowledge for concept development in fraction. 2.4) Integration of concrete materials, media and technology for the teaching of fractions.	
3. Decimal Numbers 3.1) • Decimal concepts. 3.2) • Difficulties and misconceptions in decimal concepts. 3.3) • Pedagogical Content: knowledge for concept development in decimals. 3.4) • Integration of concrete materials, media and technology for the teaching of decimals.	
4. Money 4.1) • Money concepts. 4.2) • Difficulties and misconceptions in money concepts 4.3) • Pedagogical Content: knowledge for concept development in money 4.4) • Integration of concrete materials, media and technology for the teaching 4.5) • of money concepts.	

5. Percentage

5.1) • Percentage concepts.

5.2) • Difficulties and misconceptions in percentage concepts.

5.3) • Pedagogical Content: knowledge for concept development in percentages.

5.4) • Integration of concrete materials, media and technology for the teaching

5.5) • of percentage concepts.

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Discussion	i-Class	10%	CLO1 , CLO2 , CLO3
	Individual Project	Lesson Plan	20%	CLO1 , CLO2 , CLO3 , CLO4
	Quiz	Quiz 1	15%	CLO1
	Quiz	Quiz 2	15%	CLO2

Reading List	Recommended Text	<ul style="list-style-type: none"> • Lee Peng Yee & Lee Ngan Hoe , 2009, <i>Teaching Primary School Mathematics A Resource Book</i>, 2 Ed., McGraw Hill
	Reference Book Resources	<ul style="list-style-type: none"> • Spangler, D. B. 2010, <i>Strategies for Teaching Whole Number Computation: Using Error Analysis for Intervention and Assessment.</i>, Corwin Press. • Thompson, I. 2008, <i>Teaching and Learning Early Number.</i>, Open University Press • Verschaffel, L. & De Corte, E. 1996, <i>Number and Arithmetic.</i>, International handbook of mathematics education Kluwer Academic Publishers.
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	