

SALEM_IMMANUEL LUTHERAN COLLEGE

S6 NSS Mathematics Teaching Schedule (2012 - 2013)

Textbook: New Century Mathematics – Book M2B (Oxford)

Teachers:

Class A	Class B
So WS	So WS

Schedule:***M2B Chapter 8 – Applications of Definite Integration***

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
June	<ul style="list-style-type: none"> ● Introduce that the area bounded by the curve $y = f(x)$, the x-axis, and the lines $x = a$ and $x = b$ ● Introduce that the area bounded by the curve $x = g(y)$, the y-axis, and the lines $y = c$ and $y = d$ ● Introduce how to apply definite integrals in finding the area between a curve and the y-axis. ● Introduce that the area bounded by the curves $y = f(x)$, $y = g(x)$, and the lines $x = a$ and $x = b$ ● Introduce that the area bounded by the curves $x = f(y)$, $x = g(y)$, and the lines $y = c$ and $y = d$ ● Introduce solid of revolution and axis of revolution. ● Introduce the formulae of the volumes of a solid of revolution formed by revolving a region about the x-axis and the y-axis respectively by the shell method ● Introduce the formula of the volume V of a solid of revolution about a horizontal line by the disc method ● Introduce the formula of the volume V of a solid of revolution about a horizontal line by the shell method 	Area	6	Exercise 8A
		Volume	8	Exercise 8B
		Total:	14	

M2B Chapter 9 – Matrix and Determinants

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
4 Sep to 23 Sep	<ul style="list-style-type: none"> ● To understand the concept, addition and scalar multiplication of matrices ● To understand the multiplication of 	Concept and Basic Operations of Matrices	3	Exercise 9A

	matrices and its properties <ul style="list-style-type: none"> To recognize the concept and properties of determinants of order 2 and order 3 To understand the concept, operations and properties of inverses of square matrices of order 2 and order 3 	Multiplication of Matrices	3	Exercise 9B
		Determinants	3	Exercise 9C
		Inverse of a Matrix	3	Exercise 9D
		Total:	12	

Quiz (1)

M2B Chapter 10 – Systems of Linear Equations

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
26 Sep to 17 Oct	<ul style="list-style-type: none"> To solve systems of linear equations by inverse matrix method, Cramer's rule and Gaussian elimination To determine the number of solutions of a system of linear equations and find the general solution of a system of linear equations To determines whether a system of homogeneous linear equations has non-trivial solutions 	Solving systems of linear equations	4	Exercise 10A Exercise 10B Exercise 10C
		General solution of a system of linear equations	4	Exercise 10D
		Homogeneous linear equations	4	Exercise 10E
		Total:	12	

Quiz (2)

M2B Chapter 11 – Introduction to Vectors

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
18 Oct to 11 Nov	<ul style="list-style-type: none"> To understand the concepts of vectors To understand the operations of vectors To express vectors in terms of other vectors and find scalars from equations of vectors concept of position vectors section formula for vectors to understand the representation of vectors in the rectangular coordinate system determine whether points are coplanar applications of vectors 	Concept of vectors	2	Exercise 11A
		Basic operations of vectors	3	
		Position vectors	3	Exercise 11B
		Representation of vectors in the rectangular coordinate system	3	Exercise 11C
		Applications of vectors	3	Exercise 11D
		Total:	14	

First Term Uniform Test

M2B Chapter 12 – Scalar Products and Vector Products

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
14 Nov to 5 Dec	<ul style="list-style-type: none"> ● definition and properties of the scalar product ● applications of the scalar product ● definition and properties of the vector product of vectors in \mathbf{R}^3 ● applications of the vector product ● properties of scalar triple products ● volume of a parallelepiped 	Scalar products	4	Exercise 12A
		Vector products	3	Exercise 12B
		Scalar triple products	3	Exercise 12C
		Total:	10	

Revision Period

Date	Objectives	Content	Periods	Teaching Materials / Ex./ Remarks
6 Dec to 20 Dec	<ul style="list-style-type: none"> ● Revision, prepare for public exam 		10	Mock test for revisions
		Total:	10	

MOCK Examination