

Singapore Math Grade 9 (新加坡数学九年级)

Meeting time: Sunday 3:40 – 5pm

Textbook: *Discovering Mathematics 4A* and *4B*, by Chow Wai Keung (Star Publishing)

Instructor: Dr. Kai Cai (蔡锴)

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Prerequisite: Completed NCLS Singapore Math Grade 8 or equivalent

Fall 2021 approximate schedule:

Week 1 (September 12)	Math Review (Numbers and Sets); Data Analysis and Chapter 1 (Standard Deviation)
Week 2 (September 19)	Chapter 1 continued
Week 3 (September 26)	Chapter 1 continued; Quiz 1
Week 4 (October 3)	Chapter 6: Graphs in Practical Situations – 6.1
Week 5 (October 17)	6.2-A Distance-time Graphs
Week 6 (October 24)	6.2-B Speed-time Graphs
Week 7 (October 31)	Chapter 6 Review; Quiz 2
Week 8 (November 7)	Chapter 2: Probability (2.1: Probabilities of Simple Combined Events)
Week 9 (November 14)	2.2: Mutually Exclusive Events
Week 10 (November 21)	2.3: Independent Events
Thanksgiving (no class)	
Week 11 (December 5)	2.4: Further Probabilities
Week 12 (December 12)	Chapter 4: Vectors in Two Dimensions – 4.1: Introduction to Vectors
Week 13 (December 19)	4.2: Operations on Vectors
Christmas & New Year holidays (no class)	
Week 14 (January 9)	4.3 (Position Vectors) and 4.4 (Vectors on the Coordinate Plane)
Week 15 (January 16)	4.5: Applications of Vectors in Geometry
January 23, 2022	Final Exam

Spring 2022 tentative schedule:

Week 1 (January 30)	Chapter 3: Matrices - 3.1 (Definition) and 3.2
Week 2	3.2: Addition and Subtraction of Matrices
Week 3	3.3: Multiplication of A Matrix and a Scalar; Review
Week 4	Chapter 3 continued - 3.4: Multiplication of Matrices
Week 5	3.4 continued
Week 6	Chapter 5: Mathematics in Practical Situations – 5.1
Week 7	Chapter 5 continued
Week 8	Chapter 5 continued
Week 9	Complex Numbers; Midterm Exam
Week 10	Complex Plane
Week 11	Exponential and Logarithmic Functions: part 1
Week 12	Exponential and Logarithmic Functions part 2: the Natural Exponential Function
Week 13	Logarithmic Functions
Week 14	Laws of Logarithms
Week 15	Exponential and Logarithmic Equations
Week 16 (June 19)	Final Exam

Note: the instructor reserves the right to update or adjust this syllabus at any time.