

**IB Chinese A (HL/SL) Pre-Course Y12
(12 lessons)**

Class	Topic	Details
Lesson 1	IBDP 語言 A 語言及文學課程簡介 (HL/SL)	<ul style="list-style-type: none"> 簡介課程及考試內容 各卷寫作及答題技巧 Paper 1: 有引導題的文本分析 Paper 2: 比較論文 <ul style="list-style-type: none"> 2021 年新增項目：高級課程論文(HL students only)
Lesson 2	非文學文本賞析	<ul style="list-style-type: none"> 廣告 惡搞、模仿作品
Lesson 3	非文學文本賞析	<ul style="list-style-type: none"> 指南 博客
Lesson 4	Book workshop	<ul style="list-style-type: none"> 三毛《撒哈拉歲月》賞析 *學生如有自選文學作品，亦可在課程開始前提出要求改動
Lesson 5	Book workshop	<ul style="list-style-type: none"> 三毛《撒哈拉歲月》賞析 *學生如有自選文學作品，亦可在課程開始前提出要求改動
Lesson 6	非文學文本賞析	<ul style="list-style-type: none"> 照片 小冊子/傳單
Lesson 7	非文學文本賞析	<ul style="list-style-type: none"> 日記 訪談
Lesson 8	Book workshop	<ul style="list-style-type: none"> 龍應台《目送》賞析 *學生如有自選文學作品，亦可在課程開始前提出要求改動
Lesson 9	Book workshop	<ul style="list-style-type: none"> 龍應台《目送》賞析 *學生如有自選文學作品，亦可在課程開始前提出要求改動
Lesson 10	非文學文本賞析	<ul style="list-style-type: none"> 雜誌文章
Lesson 11	非文學文本賞析	<ul style="list-style-type: none"> 新聞報道/時事評論
Lesson 12	對照及比較文學作品	<ul style="list-style-type: none"> 比較《目送》與朱自清《背影》

**IB Chinese B (HL/SL) Pre-Course Y12
(12 lessons)**

Class	Topic	Details
Lesson 1	IBDP 語言 B 語言及文學課程簡介 (HL/SL)	<ul style="list-style-type: none"> 簡介課程及考試內容 各卷寫作及答題技巧 Paper 1: 閱讀及聆聽(聆聽部分為 2020 年新加項目) Paper 2: 寫作 <ul style="list-style-type: none"> 校內評估: 口試
Lesson 2	閱讀理解及聆聽練習	<ul style="list-style-type: none"> 主題: 身份認同
Lesson 3	寫作練習	<ul style="list-style-type: none"> 主題: 身份認同 寫作類型: 傳單
Lesson 4	閱讀理解及聆聽練習	<ul style="list-style-type: none"> 主題: 體驗
Lesson 5	寫作練習	<ul style="list-style-type: none"> 主題: 體驗 寫作類型: 校刊/報刊文章
Lesson 6	閱讀理解及聆聽練習	<ul style="list-style-type: none"> 主題: 人類發明創造
Lesson 7	寫作練習	<ul style="list-style-type: none"> 主題: 人類發明創造 寫作類型: 博客
Lesson 8	閱讀理解及聆聽練習	<ul style="list-style-type: none"> 主題: 社會組織
Lesson 9	寫作練習	<ul style="list-style-type: none"> 主題: 社會組織 寫作類型: 電子郵件
Lesson 10	閱讀理解及聆聽練習	<ul style="list-style-type: none"> 主題: 共享地球
Lesson 11	寫作練習	<ul style="list-style-type: none"> 主題: 共享地球 寫作類型: 建議書
Lesson 12	口語練習	<ul style="list-style-type: none"> 口語練習 5 分鐘演講(自備題目) 4 分鐘自由作答時間(即場預備)

**IB Chemistry Pre-Course Y12
(12 lessons)**

Class	Topic	Details
Lesson 1-3	Stoichiometry relationships	<ul style="list-style-type: none">• Particulate nature of matter• The mole concept• Reacting masses and volumes: Gases• Reacting masses and volumes: Solutions
Lesson 4-5	Atomic structure	<ul style="list-style-type: none">• The nuclear atom• Electron configuration• Electrons in atoms [HL]
Lesson 6	Stoichiometry & atomic structure mock test	<ul style="list-style-type: none">• Test + Overall review
Lesson 7-8	Periodicity	<ul style="list-style-type: none">• Periodic table• Periodic trends• First-row d-block elements [HL]• Colored complexes [HL]
Lesson 9-11	Chemical bonding / structure	<ul style="list-style-type: none">• Ionic bonding• Covalent bonding• Covalent structures• Intermolecular forces• Metallic bonding• Further aspects of covalent bonding and structure [HL]• Hybridization [HL]
Lesson 12	Periodicity & chemical bonding / structure mock test	<ul style="list-style-type: none">• Test + Overall review

**IB Economic Pre-Course Y12
(12 lessons)**

Class	Topic
Lesson 1	What is IB Economics? How do economist approach the world
Lesson 2	Demand and Supply
Lesson 3	Price Equilibrium and Market Systems
Lesson 4	Elasticities
Lesson 5	Government Intervention (1)
Lesson 6	Government Intervention (2)
Lesson 7	Market Failure (1)
Lesson 8	Market Failure (2)
Lesson 9	Measuring Economic Activity
Lesson 10	Aggregate Demand and Aggregate Supply
Lesson 11	Macroeconomics Objectives
Lesson 12	Government Policies

**IB English Language and Literature Pre-Course Y12
(12 lessons)**

Class	Topic	Details
Lesson 1	IB English language and literature course introduction	<ul style="list-style-type: none"> • Global issues and related topics paper one and paper two introduction • Essential skills to commentary, unseen textual analysis, application to related global issues
Lesson 2	Feminism and queer theory	<ul style="list-style-type: none"> • Literary text: chosen poem(s) from Carol Ann Duffy's <i>World's Wife</i> • Conceptual terminologies in feminism and queer theory, poetic techniques, literary intertextuality
Lesson 3	Feminism and queer theory	<ul style="list-style-type: none"> • Non literary text: chosen printed advertisement(s) • Conceptual terminologies in feminism and queer theory, advertising techniques, post-war era
Lesson 4	Colonialism and post-colonialism	<ul style="list-style-type: none"> • Literary text: George Orwell's <i>Shooting an Elephant</i> chosen extract from Daniel Defoe's <i>Robinson Crusoe</i> • Conceptual terminologies in colonialism and post-colonialism, prose techniques, imperialism and post-war England
Lesson 5	Colonialism and post-colonialism	<ul style="list-style-type: none"> • Non-literary text: film trailer <i>Black Panther</i> • Conceptual terminologies in colonialism and post-colonialism, visual and cinematic techniques, contemporary racial hierarchies
Lesson 6	Existentialism and humanism	<ul style="list-style-type: none"> • Literary text: Eugene O'Neill's <i>Long Day's Journey into Night</i> chosen extract from J.D. Salinger's <i>Catcher in the Rye</i> • Conceptual terminologies in existentialism and humanism, materialism and individualism, dramatic

		techniques, cold war literature
Lesson 7	Existentialism and humanism	<ul style="list-style-type: none"> • Non-literary text: webcomic: <i>Existential Comics</i> • Conceptual terminologies in existentialism and humanism, parody and caricature, graphological techniques
Lesson 8	Marxism	<ul style="list-style-type: none"> • Literary text: chosen extract from Bret E. Hills's <i>American Psycho</i> • Conceptual terminologies in Marxism, materialism, consumerism and capitalism, prose techniques
Lesson 9	Marxism	<ul style="list-style-type: none"> • Non-literary text: chosen printed advertisements comparison • Conceptual terminologies in Marxism, materialism, consumerism and capitalism, graphological and advertising techniques, post-war and cold war propaganda
Lesson 10	Psychoanalysis and Freud	<ul style="list-style-type: none"> • Literary text: Angela Carter's <i>The Bloody Chamber</i> chosen extract from Margaret Atwood's <i>Handmaid's Tale</i> • Conceptual terminologies in psychoanalysis, eroticism, prose techniques, phallogentrism and social taboos
Lesson 11	Psychoanalysis and Freud	<ul style="list-style-type: none"> • Non-literary text: film cut-scene <i>The Streetcar Named Desire</i> • Conceptual terminologies in psychoanalysis, sexuality and death, dramatic techniques, post-war America
Lesson 12	Power hierarchy and ethnicities	<ul style="list-style-type: none"> • Non-literary text: Childish Gambino's <i>This is America</i> • Conceptual terminologies in ethnicities, cinematic techniques, the rise of the new black generations, consumerism and racial hierarchy

IB English Literature Pre-Course Y12
(12 lessons)

Class	Topic	Details
Lesson 1	IB English literature course introduction	<ul style="list-style-type: none"> • Global issues and related topics paper one and paper two introduction • Essential skills to commentary, unseen textual analysis, application to related global issues
Lesson 2	Feminism and queer theory	<ul style="list-style-type: none"> • Poetry: chosen poem(s) from Sylvia Plath's <i>Ariel</i> • Conceptual terminologies in feminism and queer theory, poetic techniques, literary intertextuality
Lesson 3	Feminism and queer theory	<ul style="list-style-type: none"> • Novel: extract from Virginia Woolf's <i>Orlando</i> • Victorian sexuality and gender representation, sex and gender, stream-of-consciousness
Lesson 4	Colonialism and post-colonialism	<ul style="list-style-type: none"> • Short story and novel: George Orwell's <i>Shooting an Elephant</i> chosen extract from Daniel Defoe's <i>Robinson Crusoe</i> • Conceptual terminologies in colonialism and post-colonialism, prose techniques, imperialism and post-war England
Lesson 5	Orientalism	<ul style="list-style-type: none"> • Drama: chosen scenes from David Huang's <i>M. Butterfly</i> • Conceptual terminologies in orientalism, representation of non-western cultural identities
Lesson 6	Existentialism and humanism	<ul style="list-style-type: none"> • drama: Eugene O'Neill's <i>Long Day's Journey into Night</i> • conceptual terminologies in existentialism and humanism, materialism and individualism, dramatic techniques, cold war literature

Lesson 7	Holocaust literature and collective memory	<ul style="list-style-type: none"> • Poetry: chosen poem(s) from Wisława Szymborska • Conceptual terminologies in holocaust literature, poetic techniques
Lesson 8	Marxism	<ul style="list-style-type: none"> • Novel: chosen extract from Bret E. Hills's <i>American Psycho</i> • Conceptual terminologies in Marxism, materialism, consumerism and capitalism, prose techniques
Lesson 9	Romanticism and industrial revolution	<ul style="list-style-type: none"> • Poetry: chosen poem(s) from John Keats • Conceptual terminologies in romanticism, poetic techniques
Lesson 10	Psychoanalysis and Freud	<ul style="list-style-type: none"> • Short story: Angela Carter's <i>The Bloody Chamber</i> • Conceptual terminologies in psychoanalysis, eroticism, prose techniques, phallogentrism and social taboos, resistant reading
Lesson 11	Psychoanalysis and Freud	<ul style="list-style-type: none"> • Drama: Tennessee William's <i>The Streetcar Named Desire</i> • Conceptual terminologies in psychoanalysis, sexuality and death, dramatic techniques, post-war America
Lesson 12	Literary realism and surrealism	<ul style="list-style-type: none"> • Novel: Emile Zola's <i>Therese Raquin</i> Italo Calvino's <i>Invisible Cities</i> • Conceptual terminologies in realism and surrealism, structuralism, signifier and signified

**IB Maths AA (Analysis and Approaches) SL Pre-Course
(12 lessons)**

Class	Topic	Details
Lesson 1	Functions	<p>Concept of a function, domain, range and graph. Function notation, for example $f(x)$, $v(t)$, $C(n)$.</p> <p>Inverse function as a reflection in the line $y = x$, and the notation $f^{-1}(x)$.</p>
Lesson 2	Functions	<p>Determine key features of graphs.</p> <p>Using technology to graph functions including their sums and differences.</p>
Lesson 3	Functions	<p>The three formats of quadratic functions</p> $f(x) = ax^2 + bx + c$ $f(x) = a(x - p)(x - q)$ $f(x) = a(x - h)^2 + k$
Lesson 4	Functions	<p>The discriminant $\Delta = b^2 - 4ac$ and the nature of the roots</p> <p>a. two distinct real roots, b. two equal real roots, c. no real roots</p>
Lesson 5	Functions	<p>The reciprocal function $f(x) = \frac{1}{x}$</p> <p>Rational functions $f(x) = \frac{ax+b}{cx+d}$</p> <p>Exponential functions $f(x) = a^x$</p> <p>Logarithmic functions $f(x) = \log_a x$</p>
Lesson 6	Functions	<p>Transformations of graphs.</p> <p>Translations: $y = f(x) + b$; $y = f(x - a)$.</p> <p>Reflections (in both axes): $y = -f(x)$; $y = f(-x)$.</p> <p>Vertical stretch with scale factor p: $y = pf(x)$.</p> <p>Horizontal stretch with scale factor $1/q$: $y = f(qx)$.</p>

Lesson 7	Algebra	Arithmetic sequences and series. Use of the formulae for the n^{th} term and the sum of the first n terms of the sequence.
Lesson 8	Algebra	Geometric sequences and series. Use of the formulae for the n^{th} term and the sum of the first n terms of the sequence.
Lesson 9	Algebra	Financial applications of geometric sequences and series: a. compound interest b. annual depreciation.
Lesson 10	Algebra	Laws of exponents Laws of logarithms. $\log_a xy = \log_a x + \log_a y$ $\log_a \frac{x}{y} = \log_a x - \log_a y$ $\log_a x^m = m \log_a x$ $\log_a x = \frac{\log_b x}{\log_b a}$
Lesson 11	Algebra	The binomial theorem: expansion of $(a + b)^n$
Lesson 12	Unit Test	Functions and Algebra Analysis and Summary

**IB Maths AA (Analysis and Approaches) HL Pre-Course
(12 lessons)**

Class	Topic	Details
Lesson 1	Functions	<p>Concept of a function, domain, range and graph. Function notation, for example $f(x)$, $v(t)$, $C(n)$.</p> <p>Odd and even functions.</p> <p>Even: $f(-x) = f(x)$ Odd: $f(-x) = -f(x)$</p> <p>Inverse function as a reflection in the line $y = x$, and the notation $f^{-1}(x)$.</p>
Lesson 2	Functions	<p>Polynomial functions, their graphs and equations; zeros, roots and factors.</p> <p>The factor and remainder theorems.</p> <p>Sum and product of the roots of polynomial equations.</p>
Lesson 3	Functions	<p>The three formats of quadratic functions</p> $f(x) = ax^2 + bx + c$ $f(x) = a(x - p)(x - q)$ $f(x) = a(x - h)^2 + k$
Lesson 4	Functions	<p>The discriminant $\Delta = b^2 - 4ac$ and the nature of the roots</p> <p>a. two distinct real roots, b. two equal real roots, c. no real roots</p>
Lesson 5	Functions	<p>Modulus function $y = f(x)$</p> <p>Reciprocal function $f(x) = \frac{1}{x}$</p> <p>Rational functions $f(x) = \frac{ax+b}{cx+d}$</p> <p>Exponential functions $f(x) = a^x$</p> <p>Logarithmic functions $f(x) = \log_a x$</p>
Lesson 6	Functions	<p>Transformations of graphs.</p> <p>Translations: $y = f(x) + b$; $y = f(x - a)$.</p> <p>Reflections (in both axes): $y = -f(x)$; $y = f(-x)$.</p>

		Vertical stretch with scale factor p : $y = p f(x)$. Horizontal stretch with scale factor $1/q$: $y = f(qx)$.
Lesson 7	Algebra	Arithmetic sequences and series. Geometric sequences and series. Use of the formulae for the n^{th} term and the sum of the first n terms of the sequence.
Lesson 8	Algebra	Financial applications of geometric sequences and series: a. compound interest b. annual depreciation.
Lesson 9	Algebra	Counting principles, including permutations and combinations.
Lesson 10	Algebra	Laws of exponents Laws of logarithms. $\log_a xy = \log_a x + \log_a y$ $y \log_a x/y = \log_a x - \log_a y$ $\log_a x^m = m \log_a x$ $\log_a x = \log_b x / \log_b a$
Lesson 11	Algebra	The binomial theorem to fractional and negative indices expansion of $(a + b)_n$
Lesson 12	Unit Test	Complex numbers: the number i , where $i^2 = -1$. Cartesian form $z = a + bi$; the terms real part, imaginary part, conjugate, modulus and argument.

**IB Maths AI (Analysis and Interpretation) SL Pre-Course
(12 lessons)**

Class	Topic	Details
Lesson 1	Functions	<p>Concept of a function, domain, range and graph. Function notation, for example $f(x)$, $v(t)$, $C(n)$.</p> <p>Inverse function as a reflection in the line $y = x$, and the notation $f^{-1}(x)$.</p>
Lesson 2	Functions	<p>Creating a sketch from information given or a context, including transferring a graph from screen to paper.</p> <p>Using technology to graph functions including their sums and differences.</p>
Lesson 3	Function Modelling	<p>Modelling with the functions:</p> <p>quadratic functions $f(x) = ax^2 + bx + c$</p> <p>Exponential functions $f(x) = ka^x + c$ $f(x) = ka \cdot \dots \cdot X + c$ (for $a > 0$) $f(x) = ke^{rx} + c$</p> <p>Direct/inverse variation: $f(x) = ax^n$</p> <p>Cubic models: $f(x) = ax^3 + bx^2 + cx + d$.</p> <p>Sinusoidal models: $f(x) = a \sin(b(x-c)) + d$ $f(x) = a \cos(b(x-c)) + d$</p>
Lesson 4		
Lesson 5		
Lesson 6	Functions application	<p>Develop and fit the model.</p> <p>Use the model:</p> <p>Reading, interpreting and making predictions based on the model.</p>

Lesson 7	Algebra	Arithmetic sequences and series. Use of the formulae for the n th term and the sum of the first n terms of the sequence. Use of sigma notation for sums of arithmetic sequences.
Lesson 8	Algebra	Arithmetic sequences and series. Analysis, interpretation and prediction where a model is not perfectly arithmetic in real life.
Lesson 9	Algebra	Geometric sequences and series. Use of the formulae for the n th term and the sum of the first n terms of the sequence.
Lesson 10	Algebra	Financial applications of geometric sequences and series: a. compound interest b. annual depreciation.
Lesson 11	Algebra	Laws of exponents with integer exponents. Introduction to logarithms with base 10 and e .
Lesson 12	Algebra	Approximation: decimal places, significant figures. Percentage errors.

**IB Psychology Pre-Course Y12
(12 lessons)**

Class	Topic	Details
Lesson 1	Approaches to researching behaviour	<ul style="list-style-type: none"> • Research methods
Lesson 2	Approaches to researching behaviour	<ul style="list-style-type: none"> • Scientific processes • Ethical considerations
Lesson 3	Biological approach to understanding behaviour	<ul style="list-style-type: none"> • Assumptions of the biological approach
Lesson 4	Biological approach to understanding behaviour	<ul style="list-style-type: none"> • Research methods used in the biological approach • Ethical considerations of research studies
Lesson 5	Biological approach to understanding behaviour	<ul style="list-style-type: none"> • Techniques used to study the brain in relation to behaviour
Lesson 6	Biological approach to understanding behaviour	<ul style="list-style-type: none"> • The physiology of the brain
Lesson 7	Cognitive approach to understanding behaviour	<ul style="list-style-type: none"> • Assumptions of the cognitive approach
Lesson 8	Cognitive approach to understanding behaviour	<ul style="list-style-type: none"> • Research methods used in the cognitive approach • Ethical considerations of research studies
Lesson 9	Cognitive approach to understanding behaviour	<ul style="list-style-type: none"> • The multi-store model of memory

Lesson 10	Sociocultural approach to understanding behaviour	<ul style="list-style-type: none">• Research methods used in the sociocultural approach• Ethical considerations of research studies
Lesson 11	Sociocultural approach to understanding behaviour	<ul style="list-style-type: none">• The individual and the group
Lesson 12	Sociocultural approach to understanding behaviour	<ul style="list-style-type: none">• Cultural influences on individual attitudes, identity and behaviors