SEMIAHMOO INTERNATIONAL BACCALAUREATE PROGRAMME

COURSE SELECTION GUIDE

IB Groups	Pathway 1 **Natural Sciences**	Pathway 2 **Life Sciences**	Pathway 3 **Humanities**
1 First Language	English SL	English SL or English HL	English SL or English HL
2 Second Language[1]	French B SL or Spanish B SL	French B SL or Spanish B SL	French B SL or Spanish B SL
3 Individuals & Society	History SL or Geography SL	History HL or SL or Geography HL or SL	History HL or SL or Geography HL or SL
4 Experimental Science	Physics HL **and** Chemistry HL	Biology HL **and** Chemistry HL	Biology HL **or** Biology SL
5 Math	Math HL (recommended) or Math SL	Math HL or Math SL	Math SL
6 The Arts			Visual Arts HL[2] **or** an additional subject from Groups 3 or 4

** The next pages will help you decide which HLs or SLs to choose, depending on your chosen Pathway, keeping in mind that you need 3 HLs.

[1] If you are a new English speaker and you have not had the opportunity to take French or Spanish, you may request to study your home language in a self-taught literature course to fulfill your second language requirement. If you meet the requirements and would like to study the self-taught language course, contact email your request to the IB coordinator directly after submitting your application.

[2] Visual Arts HL is for students with previous art training. Choose a second group 3 or 4 subject if you do not have prerequisite courses in art.

Why Choose IB English A: Literature?

IB English A: Literature is an opportunity to explore how language and storytelling shape our understanding of identity, culture, and the world. Through close reading and discussion, you will engage with diverse voices and ideas, developing critical thinking and communication skills that universities value highly.

At Semiahmoo, the course is taught in a seminar format, emphasizing dialogue and independent thought. You will learn to analyze texts deeply, write with clarity and precision, and articulate your ideas confidently in both written and oral formats.

Students who choose Higher Level (HL) take on additional texts and a formal academic essay, gaining a richer and more rigorous experience. HL is ideal for those passionate about literature or planning to pursue humanities or English-related studies. Standard Level (SL) offers the same core skills with a lighter workload, making it a strong choice for students managing other demanding courses.

Both pathways prepare you for success in the IB Diploma Programme and beyond. If you are curious, analytical, and ready to challenge yourself, IB English A: Literature will be one of the most rewarding courses you take.

Course Hours and Texts

SL students complete approximately 150 hours of instruction and study seven works of literature drawn from a range of genres and cultures. HL students complete approximately 240 hours and study nine works in total.

At Semiahmoo, HL students read all SL texts plus three additional works. Currently: *After Dark* by Haruki Murakami, *1984* by George Orwell, and *The Handmaid's Tale* by Margaret Atwood.

Assessment Structure

SL	HL
• Paper 1: Guided Literary Analysis – 35% (1 hr 15 min, one passage) • Paper 2: Comparative Essay – 35% (1 hr 45 min) • Individual Oral – 30%	• Paper 1: Guided Literary Analysis – 35% (2 hr 15 min, two passages) • Paper 2: Comparative Essay – 25% (1 hr 45 min) • Individual Oral – 20% • HL Essay – 20% (1,200–1,500 words)

IB Geography Quick Overview by Mr. Mleziva

Introduction: Geography is truly the bridge subject between the Sciences and Humanities. IB Geography covers both physical geography and human geography.

IB Geography SL & HL

- **Earthquakes, Volcanoes & Mass Wasting**
  - where they mostly happen, why, and how to manage the potential threats eg warning systems, better building engineering, cell phone apps
- **Extreme Environments**
  - **Hot Deserts and Semi-arid areas** from different parts of the world whether it's the Central Valley in California, the Okanagan Valley of BC, Niger, or the Gobi Desert
  - Look at the different landforms in these areas and the challenges and opportunities for human activities including agriculture, tourism, and mining
  - **Cold Extreme Environments** – Glaciation previously and the landforms left behind and the opportunities and challenges provided + Periglacial environments such as the Arctic; a look at how the Inuit live in this environment
- **Demographics**
  - population patterns in different countries and the pros and cons of different population structures eg young countries vs. ageing societies
- **Migration Case Studies**
  - push / pull factors, forced and voluntary migration, legal and illegal migration + current events
- **Economic Geography**
  - differences between High-Income / Middle-Income / and Low-Income Countries
  - different strategies for reducing global economic disparities; trends in energy production
- **Climate Change**
  - various causes, to what extent is carbon dioxide a main driver behind climate change? Climate Change agreements such as Kyoto and Paris; the implications of carbon taxes

For more information on IB Geography, check out Mr. Mleziva's Geography website

IB Geography HL - Further Topics

- **Freshwater**
  - River systems such as the Nile, Yellow, Red, and Mississippi, their different landforms, opportunities and challenges
  - Wetlands including locally Burns Bog
    Note: Aspects of the Freshwater Topic will also be covered in SL during Grade 11 as critical background information related to other topics and Field Studies
- **Globalization**
  - integration of the world economy in recent decades and its pros and cons + the rise of anti-globalization movements
    eg Brexit, tariff disputes
  - International organizations (eg UN, World Trade Organization, European Union, USMCA)

Field Study Work (HL & SL)

- Applying knowledge gained in the classroom to the real world including a **Howe Sound and Whistler Village Field Study (Grade 11)** looking at the incredible physical features of the area + economic / cultural / and environmental features; contrasting the Vegetation in **Burns Bog / Watershed Park / and the Serpentine Wildlife Management Area (Gade 12)**

Summary

- **From Engineering to Economics to Ecology to International Relations and more, IB Geography bridges so many subject areas for university. As well, a proven track record of outstanding IB Geography results here at Semiahmoo Secondary shows that you can do very well .in either HL or SL Geography.**

IB HISTORY HL/SL

History is an exploratory subject that fosters a sense of inquiry. It is also an interpretive discipline, allowing opportunity for engagement with multiple perspectives and opinions. Studying history develops an understanding of the past, which leads to a deeper understanding of the nature of humans and of the world today.

The Diploma Programme (DP) history course is a world history course based on a comparative, multi-perspective approach to history and focused around key historical concepts such as change, causation and significance. It involves the study of a variety of types of history, including political, economic, social and cultural, encouraging students to think historically and to develop historical skills. In this way, the course involves a challenging and demanding critical exploration of the past.

The DP history course requires students to study and compare examples from different regions of the world, helping to foster international mindedness. Teachers have a great deal of freedom to choose relevant examples to explore with their students, helping to ensure that the course meets their students' needs and interests regardless of their location or context. (IBO.org)

IB History SL

Course Description: This two year class focuses on the causes, practices and effects of both world wars from the theatres of Asia and Europe. Additionally, we will investigate the rise, consolidation and maintenance of power of Authoritarian States under Adolf Hitler and Mao Zedong.

IB HIstory HL

Course Description: Along with what is taught in SL, HL further explores Russia from 1855-1924 and in-depth understanding of the inter-war period.

Component	Standard Level (SL)	HIgher Level (HL)
Content Coverage	2 World History Topics	3 World History Topics Additional in-depth study of Europe
External Assessment	2 exam papers	3 exam papers
Workload	Suitable for a balanced Academic load	More demanding, extensive readings, research and complex assignments
University Preparation	Analytical skills, Research skills, Essay writing and argumentation, Historical research and evaluation of interpretations	Greater depth and range of historiography and synthesis between time periods Provides a more rigorous preparation for fields related to History, Law, International Relations, Education, Government and Politics

Biology roadmap

The aim of the syllabus is to integrate **concepts**, **topic content** and the **nature of science** through inquiry. Students and teachers are encouraged to personalize their approach to the syllabus to best fit their interests.

	Level of organization			
Theme	**1. Molecules**	**2. Cells**	**3. Organisms**	**4. Ecosystems**
A **Unity and diversity**	Common ancestry has given living organisms many shared features while evolution has resulted in the rich biodiversity of life on Earth.			
	A1.1 Water **A1.2** Nucleic acids	**A2.1** Origins of cells *[HL only]* **A2.2** Cell structure **A2.3** Viruses *[HL only]*	**A3.1** Diversity of organisms **A3.2** Classification and cladistics *[HL only]*	**A4.1** Evolution and speciation **A4.2** Conservation of biodiversity
B **Form and function**	Adaptations are forms that correspond to function. These adaptations persist from generation to generation because they increase the chances of survival.			
	B1.1 Carbohydrates and lipids **B1.2** Proteins	**B2.1** Membranes and membrane transport **B2.2** Organelles and compartmentalization **B2.3** Cell specialization	**B3.1** Gas exchange **B3.2** Transport **B3.3** Muscle and motility *[HL only]*	**B4.1** Adaptation to environment **B4.2** Ecological niches
C **Interaction and interdependence**	Systems are based on interactions, interdependence and integration of components. Systems result in emergence of new properties at each level of biological organization.			
	C1.1 Enzymes and metabolism **C1.2** Cell respiration **C1.3** Photosynthesis	**C2.1** Chemical signalling *[HL only]* **C2.2** Neural signalling	**C3.1** Integration of body systems **C3.2** Defence against disease	**C4.1** Populations and communities **C4.2** Transfers of energy and matter
D **Continuity and change**	Living things have mechanisms for maintaining equilibrium and for bringing about transformation. Environmental change is a driver of evolution by natural selection.			
	D1.1 DNA replication **D1.2** Protein synthesis **D1.3** Mutation and gene editing	**D2.1** Cell and nuclear division **D2.2** Gene expression *[HL only]* **D2.3** Water potential	**D3.1** Reproduction **D3.2** Inheritance **D3.3** Homeostasis	**D4.1** Natural selection **D4.2** Stability and change **D4.3** Climate change

IB Mathematics: Analysis and Approaches

Topic 1: Number and Algebra

	SL Topics		HL Topics
1.1	Scientific Notation	1.1-1.9	ALL topics from SL, PLUS
1.2	Arithmetic Sequences and Series	1.10	Counting principles
1.3	Geometric Sequences and Series	1.11	Partial Fractions
1.4	Applications of Geometric Series	1.12	The complex plane
1.5	Laws of Exponents	1.13	Cartesian Form
1.6	Methods of Proof (I)	1.14	Polar Form
1.7	Laws of Logarithms	1.15	Methods of Proof (II) - Induction,Contradiction
1.8	Infinite Series	1.16	Systems of Equations
1.9	Binomial theorem		

Topic 2: Functions

	SL Topics		HL Topics
2.1	Linear Equations	2.1-2.11	ALL topics from SL, PLUS
2.2	Function: Domain, Range, Inverse	2.12	Polynomial functions
2.3	Graphing functions	2.13	Rational Functions: lin/quad, quad/lin
2.4	Key Features of Graphs	2.14	Symmetry
2.5	Composite Functions, Inverse Functions	2.15	Inequalities
2.6	Quadratic Functions	2.16	Graphs: modulus, reciprocal, composite
2.7	Quadratic Equations and Inequalities		
2.8	Reciprocal, Rational Functions		
2.9	Exponential functions		
2.10	Solving algebraically, graphically		
2.11	Transformations of functions		

Topic 3: Geometry and Trigonometry

	SL Topics		HL Topics
3.1	3D Geometry	3.1-3.8	ALL topics from SL, PLUS
3.2	Solving Triangles	3.9	Reciprocal Ratios
3.3	Applications in 3D Geometry	3.10	Compound Angle Identities
3.4	Circle Geometry	3.11	Symmetry Identities
3.5	Unit Circle	3.12	Vectors: Geometric
3.6	Trigonometric Identities and Equations	3.13	Vectors: Algebraic
3.7	Graphs of Trigonometric Functions	3.14	Vector Equation of a line
3.8	Solving Trigometric Equations	3.15	Intersections of Lines
		3.16	Cross Product
		3.17	Vector Equation of a plane
		3.18	Intersections of Planes

Topic 4: Statistics and Probability

	SL Topics
4.1	Basic Concepts in Statistics
4.2	Presentation of Data
4.3	Measures of central tendency, spread
4.4	Regression: Linear y on x
4.5	Probability Basics
4.6	Conditional Probability - Venn Diagrams
4.7	Discrete Random Variables
4.8	Binomial Distributions
4.9	Normal Distribution
4.10	Linear Regression: x on y
4.11	Bayes' Theorem
4.12	Standard Normal Distribution

	HL Topics
4.1-4.12	ALL topics from SL, PLUS
4.13	Bayes' Theorem - 3 events
4.14	Continuous Random Variables

Topic 5: Calculus

	SL Topics
5.1	Limits - Introduction
5.2	Increasing, Decreasing Functions
5.3	Derivatives of Polynomial functions
5.4	Tangents and Normals
5.5	Introduction to Integration
5.6	Rules of Differentiation
5.7	Higher Derivatives
5.8	Maximum/Min Optimization
5.9	Applications of Differentiation
5.10	Indefinite Integral
5.11	Definite Integrals

	HL Topics
5.1-5.11	ALL topics from SL, PLUS
5.12	Continuity and Differentiability
5.13	L'Hospital's Rule
5.14	Applications of Integration
5.15	Further Integration - partial fractions
5.16	Integration by Substitution, parts
5.17	Areas and Volumes of Revolution
5.18	First order Differential Equations
5.19	McLaurin Series