

Course Overviews DP, UWC Thailand 2019-2020 (Maths Analysis and approaches)

All units taught in grades 11 and 12 are continuously being developed and improved to best meet the needs of the students at UWCT. Therefore, the following overview is only a reflection of current plans for the course. Some changes to these course overviews may occur as a result of planning done throughout the academic year.

Grade	Time Frame	Unit number and title	Approaches To learning skills taught / learnt / developed in this unit	Content (topics / knowledge/ subject specific skills)	Connections to TOK	Summative assessment
11SL/ HL	12 hours (4 weeks)	Sequences and series	(7 hours left for rest of Section 1) ATL: Communication - being able to communicate concisely in mathematical form	1.1-1.6(part) and 1.8 (only part of 1.5)	Is all knowledge concerned with identification and use of patterns? Consider Fibonacci numbers and connections with golden ratio	Test
11HL	8 hours (4 weeks)	Complex numbers	(12 hours left for rest of Section 1) ATL: Research	AHL1.12-1.14	What is the place of beauty and elegance in Mathematics? Why might it be said that $e^{i\pi} + 1 = 0$ is beautiful?	Test
11SL/ HL	9 hours (3 weeks)	Statistics	(18 hours left for probability SL and 24 HL)	4.1-4.4	Correlation and causation - can we have knowledge of cause and effect relationships given that we can only observe correlation?	Test
11HL	6 hours (3 weeks)	Proof	(12 hours left for rest of Section 1)	AHL1.15		Test
11 SL/HL	21 hours (7 weeks)	Functions	(No hours left for SL)	2.1-2.11		Test
11 HL	11 hours (5 weeks)	Functions HL	(no hours left for HL)	AHL2.12-2.16		Test (different to SL test)
11HL	3 hours (2 weeks)	Permutations and combinations	(9 hours left for rest of Section 1 HL)	AHL1.10 (and include partial fractions 1.11)	What counts as understanding in mathematics? Is it more than just getting the right answer?	
11SL/ HL	7	Logarithms and Binomial expansion		1.5, 1.7 and 1.9	Is mathematics invented or discovered? Consider	

					logarithms - did they exist before man defined them?	
11HL	4	Solutions of systems of linear equations	(5 hours left for rest of Section 1)	AHL1.16		
11SL/HL	15 hours	Calculus - differentiation	(13 hours left for integration)	5.1-5.4, 5.6-5.9		
11HL	9 hours	Calculus - differentiation	(18 hours left for calculus HL)	AHL5.12-5.14 and AHL 1.11(partial fractions)		
11 SL/HL	12 hours	Geometry		3.1-3.6		
11 SL/HL	13 hours	Trigonometry	(all G&T hours used up)	3.7-3.8		
11 HL	16	Geometry and Trigonometry	(10 hours left for vectors)	AHL 3.9-3.11		
11SL/HL	13	Calculus - integration		5.5 and 5.10-5.11		
11HL	8	Calculus - integration	(4 hours left for calculus HL)	5.15-5.17		
11SL/HL	18	Probability		4.5-4.12		
11 HL	12	Probability	(12 hours HL left)	4.13-4.14		
		VECTORS	(10 hours for this)	3.12-3.18		