都立国際高校 年間授業計画／Tokyo Metropolitan Kokusai High School Course Syllabus

科目基礎情報／Course information

開講年度／Academic year	令和5年度／2023年度
開講学科／Department	国際学科国際バカロレアコース／IBDP(International Baccalaureate Diploma Programme)
教科／Subject	Mathematics Analysis and Approaches Higher Level (DP2)
科目／Course Title	Mathematics Analysis and Approaches Higher Level (DP2)
学年・クラス／Year・Class	DP2
単位数／credits	6

科目概要情報／Course description

講座概要／Course description	This course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series and proof by induction.
到達目標／Course objectives	Enjoy mathematics and develop an appreciacion of the elegance and power of mathematics. Develop un understanding of the principles and natures of mathematics, develop logical, critical and creative thinking. Employ and refine powers of abstraction and generalization.
評価方法と評価基準／Evaluation method and criteria	1. Knowledge and Understanding 2. Problem solving 3. Communication and Interptretation 4. Technology 5. Reasoning 6. Inquiery Approaches
教科書／Textbooks	Mathematics: Analysis and Approaches, Higher Level, Pearson Education
校外学習／Field trip	

授業計画／Course schedule

		指導項目／Topic	指導内容／Contents	評価の方法・基準／Evaluation method and criteria	予定時数／Alotted hours
1学期/1st semester	4月	Probability Distributions	Students will learn about discrete and continuous random variables and their distributions and density functions, respectively. Students will perform linear transformations and learn about the normal and	Homework, Quizzes, Take-Home Assignments, Examinations	20
	5月	Integral Calculus II (Differential equations)	Students will learn about first order differential equations, finding numerical solutions of differential equation using Euler's method, solving variables separable differential equations and solving homogenous differential equations.		20
		Integral Calculus II (Differential Eqations II)	Students will learn how to solve linear differential equations, as well as learn about Maclaurin series, including how it is developed from differential equations, its connection to calculus in general, and related expansions.		20
	6月	Practicing Paper 3	Students will practice solving Paper 3 questions		20
		Review for Mock Exams	Students will practice solving past papers and prepare for Mock Exams, including topical review.		20
	7月				18
2学期/2st semester	9月	Review for Final Exams	Students will work in groups and individually work on past papers to prepare for the final examinations.		20
	10月	Review for Final Exams			20
	11月	Review	Review		16
	12月	Review	Review		16
3学期/3rd semester	1月	Review	Review		16
	2月	Review	Review		16
	3月	Review	Review		6

総授業時数／Total hours   228