

# 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7年度 ( 2025 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 Area )	Science
科目 ( Subject )	Physics HL
学年・クラス ( Grade・Class )	DP2
単位数 ( Number of units )	6
使用教科書 ( Text Books )	Hodder IB Diploma Programme Physics 2023 Edition
校外学習 ( Field trip )	No

## ○ 教科の目標 ( Goals of the subject area )

<p>【知識及び技能】 ( Knowledge and Skills )</p> <ul style="list-style-type: none"> <li>acquire a body of knowledge, methods and techniques that characterize science and technology</li> <li>develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.</li> </ul> <p>【思考力、判断力、表現力等】 ( Ability to think, make judgements, express themselves )</p> <ul style="list-style-type: none"> <li>apply and use a body of knowledge, methods and techniques that characterize science and technology</li> <li>develop an ability to analyse, evaluate and synthesize scientific information</li> <li>develop experimental and investigative scientific skills including the use of current technologies</li> </ul> <p>【学びに向かう力、人間性等】 ( Motivation to learn, Humanity )</p> <ul style="list-style-type: none"> <li>appreciate scientific study and creativity within a global context through stimulating and challenging opportunities</li> <li>develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities</li> </ul>
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## ○ 科目の目標 ( Goals of the subject )

【知識及び技能】 ( Knowledge and Skills )	【思考力、判断力、表現力等】 ( Ability to think, make judgements, express themselves )	【学びに向かう力、人間性等】 ( Motivation to learn, Humanity )
Demonstrate knowledge and understanding of: a. facts, concepts and terminology b. methodologies and techniques c. communicating scientific information	Apply: a. facts, concepts and terminology b. methodologies and techniques c. methods of communicating scientific information.	Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

## ○ 授業計画 ( Course schedule )

	単元の具体的な指導目標 Unit Objectives	指導項目・内容 Topic / Contents	評価規準 Evaluation Criteria	Allocated hours			
				知 ①	思 ②	態 ③	配当 時数
1学期 ( 1st semester )	<p>Internal Assessment (IA)</p> <p>【Knowledge and Skills】</p> <ul style="list-style-type: none"> <li>Develop critical thinking and gain a deeper understanding of key physics concepts</li> </ul> <p>【Ability to think, make judgements, express themselves】</p> <ul style="list-style-type: none"> <li>Be able to select appropriate topics, formulate research questions, collect data, analyze results, and draw conclusions</li> </ul> <p>【Motivation to learn, Humanity】</p> <ul style="list-style-type: none"> <li>Engages actively in designing and implementing the self-directed investigation</li> </ul>	<p>Contents:</p> <ul style="list-style-type: none"> <li>A brief overview of the topic and its importance - what is the concept being studied</li> <li>Statement of the main research question of the experiment including the independent and dependent variables</li> <li>A description of the physics behind the main concept, the main method used to measure the concept of interest including equation</li> <li>The independent, dependent and control variables are clearly defined</li> <li>A clear and concise methodology is presented</li> <li>Results, which can include tables, graphs and calculations, are neatly presented and well-organized</li> <li>A discussion of the results (e.g trends in the graphs and how it relates to the physics concepts)</li> <li>A conclusion which should be drawn from the discussion is stated</li> <li>A critical evaluation of the results of the experiment and how they could be improved is presented</li> </ul> <p>Teaching materials:</p> <ul style="list-style-type: none"> <li>Consultation with the teacher</li> </ul>	<ul style="list-style-type: none"> <li>【Knowledge/Skills】</li> <li>Based on the different criteria of an IA, a rubric is used.</li> <li>【Ability to think/make judgements/express themselves】</li> <li>Based on the different criteria of an IA, a rubric is used.</li> <li>【Attitude towards learning proactively】</li> <li>Reflection</li> </ul>	○	○	○	43
	<p>Revision</p> <p>【Knowledge and Skills】</p> <ul style="list-style-type: none"> <li>Gain a better understanding of key physics concepts across other physics topics</li> <li>Develop good time management skills both in preparing for the final examination and when taking the examination</li> <li>Develop an effective planning strategy on how to go about preparing for the IBDP final examination</li> </ul> <p>【Ability to think, make judgements, express themselves】</p> <ul style="list-style-type: none"> <li>Be able to use the concepts in discussing/expalining the answers</li> <li>Be able to analyze a problem well and know the appropriate relationships /formulas in solving a problem</li> </ul> <p>【Motivation to learn, Humanity】</p> <ul style="list-style-type: none"> <li>Engages actively in the revisions</li> <li>Work collaboratively with other classmates during the revisions</li> </ul>	<p>Contents:</p> <ul style="list-style-type: none"> <li>Time Zone 1 Papers 1, 2, and 3 past IBDP examinations</li> </ul> <p>Teaching materials:</p> <ul style="list-style-type: none"> <li>Copies of past IBDP examination papers and online resources</li> </ul>	<ul style="list-style-type: none"> <li>【Knowledge/Skills】</li> <li>Mark scheme provided by IB</li> <li>② 【Ability to think/make judgements/express themselves】</li> <li>Mark scheme provided by IB</li> <li>③ 【Attitude towards learning proactively】</li> <li>Reflection</li> </ul>	○	○	○	40
	定期考査 Examination				○	○	

	単元の具体的な指導目標 Unit Objectives	指導項目・内容 Topic / Contents	評価規準 Evaluation Criteria	知 ①	思 ②	態 ③	配当 時数
2学期 (2nd semester)	Revision <b>【Knowledge and Skills】</b> ・ Gain a better understanding of key physics concepts across other physics topics ・ Develop good time management skills both in preparing for the final examination and when taking the examination Develop an effective planning strategy on how to go about preparing for the IBDP final examination <b>【Ability to think, make judgements, express themselves】</b> ・ Be able to use the concepts in discussing/expalining the answers ・ Be able to analyze a problem well and know the appropriate relationships /formulas in solving a problem <b>【Motivation to learn, Humanity】</b> ・ Engages actively in the revisions ・ Work collaboratively with other classmates during the revisions	Contents: ・ Time Zone 0 Papers 1, 2, and 3 past IBDP examinations Teaching materials: ・ Copies of past IBDP examination papers and online resources	<b>①【Knowledge/Skills】</b> ・ Short test, Examination, Lab report <b>②【Ability to think/make judgements/express themselves】</b> ・ Examination, Poster presentation <b>③【Attitude towards learning proactively】</b> ・ Reflection	○	○	○	95
	定期考査 Examination			○	○		1
3学期 (3rd semester)	Revision <b>【Knowledge and Skills】</b> ・ Gain a better understanding of key physics concepts across other physics topics ・ Develop good time management skills both in preparing for the final examination and when taking the examination Develop an effective planning strategy on how to go about preparing for the IBDP final examination <b>【Ability to think, make judgements, express themselves】</b> ・ Be able to use the concepts in discussing/expalining the answers ・ Be able to analyze a problem well and know the appropriate relationships /formulas in solving a problem <b>【Motivation to learn, Humanity】</b> ・ Engages actively in the revisions ・ Work collaboratively with other classmates during the revisions	Contents: ・ Time Zone 0 Papers 1, 2, and 3 past IBDP examinations Teaching materials: ・ Copies of past IBDP examination papers and online resources	<b>①【Knowledge/Skills】</b> ・ Short test, Examination, Lab report <b>②【Ability to think/make judgements/express themselves】</b> ・ Examination, Poster presentation <b>③【Attitude towards learning proactively】</b> ・ Reflection	○	○	○	47
	定期考査 Examination			○	○		1

総授業時数 Total hours	228
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