



Takapuna Grammar School

Handbook for Students

**International Baccalaureate
Diploma Programme
2014**

IB Diploma Co-ordinator Ms J C Rodgers

The IB Learner

The IB programme aligns with Takapuna Grammar School's Teaching and Learning philosophy "Aspiring to Personal Excellence through Knowing, Connecting, Relating and Supporting". This seeks to produce a **life-long learner** who is:

- Challenged to academic and personal excellence
- A critical, creative and reflective learner
- A self - motivated and active life long learner
- A connected, compassionate and global citizen
- A participator and contributor



The IB programme is designed to support students to attain the qualities in the Learner Profile diagram above. They will:

- Ask challenging questions
- Learn how to learn
- Develop a strong sense of their own identity and culture
- Gain the ability to communicate with and understand people from other countries and cultures.
- Be Internationally-minded
- Be academically honest, reflective and principled

This meets the **IB Mission Statement**:

"The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

Its programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right."

How the IB Diploma Programme works



IB Diploma Programme students study six courses, 3 at **higher level (HL)** and 3 at **standard level (SL)**. Students must choose one subject from each of groups 1 to 5, thus ensuring breadth of experience in languages, social studies, the experimental sciences and mathematics. The sixth subject may be an arts subject chosen from group 6, or the student may choose another subject from groups 2 to 5.

In addition all students participate in all three parts of the core: **The Extended Essay, Theory of Knowledge and Creativity, Action and Service**. These are compulsory, and are central to the philosophy of the Diploma and to the Learner Profile.

The subjects that will be available in 2013 are (HL in bold):

Group 1	Literature: English, Chinese
Group 2	French, German, Japanese, Spanish ab initio, Mandarin ab initio
Group 3	Business and Management, Economics, Geography, History
Group 4	Biology, Chemistry, Physics
Group 5	Mathematics (SL), Mathematics (HL) , Mathematical Studies
Group 6	Theatre Arts, Visual Arts

1. Please note all subjects are offered subject to satisfactory numbers of interested students.
2. Students will be unable to change courses within the IB Diploma programme once the teaching year is underway. There may be the potential to change from an HL course to an SL course dependent on the number of teaching hours required being met. Moving from IB to NCEA prior to the start of Year 13 will require approval of Senior Management.

The Core Subjects

At the heart of the IB Diploma are three compulsory core requirements which all students must complete: Theory of Knowledge (TOK) , Extended Essay (EE), and Creativity, Action and Service (CAS).

1. Theory of Knowledge:

Coordinators: Mrs Robin Holding
Miss Kara Douglas
Mr Mark Wilkins

Theory of Knowledge is a course designed to encourage each student to reflect on the nature of knowledge by critically examining different ways of knowing (perception, emotion, language and reason) and different kinds of knowledge (scientific, artistic, mathematical and historical).

The course is organised in four broad categories with linking questions:

- Knowledge issues
- Knowers and knowing
- Ways of knowing
- Areas of knowledge

The course will be taught partially as a class in a timetabled slot, but also within each of the 6 subjects.

Theory of Knowledge Assessment

There is no examination in TOK. However students have to complete a TOK essay from a list of prescribed titles. The TOK essay is externally assessed. Students must also complete an TOK oral presentation which is internally assessed but externally moderated. It is combined with the results from the Extended Essay to contribute up to 3 points for the IB Diploma.

2. The Extended Essay

Co-ordinator – Mr Jake Lamb

The Extended Essay is an in-depth study on a topic chosen from the list of approved Diploma subjects, usually one of the student's six chosen subjects for the IB Diploma. This part of the programme focuses on analysis, evaluation and reasoning. It provides students with an opportunity to engage in personal research on a topic of their own choice, under the guidance of a supervisor (most likely a teacher from Takapuna Grammar School).

This leads to a major piece of formally presented, structured writing of 4000 words, in which ideas and findings are communicated in a reasoned and coherent manner. It is suggested it will take about 40 hours to complete.

Extended Essay Assessment

The Extended Essay is assessed externally against common criteria interpreted in ways appropriate to each subject. In combination with the grade for Theory of Knowledge, it contributes up to three points to the total score for the IB Diploma. It concludes with a short interview between the student and the supervising teacher called the *viva voce*.

		Theory of Knowledge					
Extended Essay		Excellent A	Good B	Satisfactory C	Mediocre D	Elementary E	Not Submitted
	Excellent A	3	3	2	2	1	N
	Good B	3	2	1	1	0	N
	Satisfactory C	2	1	1	0	0	N
	Mediocre D	2	1	0	0	0	N
	Elementary E	1	0	0	0	Fail	N
	Not Submitted	N	N	N	N	N	N

3. Creativity, Action and Service

Coordinator – Mr Steve Smith

The aim of CAS is to foster responsible, compassionate citizens by encouraging their participation in three strands:

Creativity: Arts, and other experiences that involve creative thinking

Action: Physical exertion contributing to a healthy lifestyle

Service: An unpaid and voluntary exchange that has a learning benefit for the student

CAS enables students to enhance their personal and interpersonal development through experiential learning. For this personal development to occur, it should involve:

- Real, purposeful activities with significant outcomes
- Personal challenge—tasks must extend the student and be achievable in scope
- Thoughtful consideration such as planning, reviewing progress and reporting
- Reflection on outcomes and personal learning

Successful completion of CAS is a requirement for the award of the IB Diploma.

Creativity, Action and Service Assessment

CAS is not formally assessed but students will need to document their activities and provide evidence that they have achieved eight key learning outcomes. The documentation will be largely done online but will also involve meetings and discussions with the Co-ordinator.

How to gain the Diploma

All subjects (with the exception of CAS) are assessed using both internal and external assessors. The **externally assessed** examinations are held in November of the second year of the Diploma course. Each exam usually consists of two or three papers, generally written on the same or successive weekdays. The different papers may have different forms of questions, or they may focus on different areas of the subject syllabus. The grading of all external assessments is done by independent examiners appointed by the IB.

The nature of the **internal assessment** varies by subject. There may for example be oral presentations, practical work or written works. Internal assessment accounts for 20 to 50 percent of the mark awarded for each subject and is marked by a teacher in the school. A sample of at least five per subject at each level will also be graded by a moderator appointed by the IB for external moderation.

Finally points from 1 -7 are awarded in each of the six subjects studied. Up to 3 additional points are awarded depending on the grades achieved in the Extended Essay and Theory of Knowledge. Therefore the maximum possible point total in the IB Diploma is 45.

To gain the Diploma students must:

Gain a minimum of 24 points of a possible 42 points in their six subjects
Gain a minimum of 12 points from their Higher Level subjects and a minimum of 9 points from their Standard Level subjects
Complete all of the requirements for the EE, CAS and TOK

Failing conditions that will prevent a student from being awarded a diploma, regardless of points received, are:

Non-completion of CAS
More than three scores of 3 or below
Plagiarism

Academic Honesty

Takapuna Grammar School expects that all students enrolled in the school will submit work that is **authentic**. Authentic work is based on the students' individual and original ideas with the ideas and work of others fully acknowledged through referencing. Other people's creations are their **intellectual property** and cannot be copied without permission – this includes art and music, discoveries and inventions, trademarks and slogans and even some words and phrases.

Academic Dishonesty and Malpractice

Although the following list is not exhaustive, academic dishonesty or **malpractice** can take a number of forms:

Cheating	Communicating with another candidate in an examination or assessment, bringing unauthorised material into an examination room, or consulting such material during an examination in order to gain an unfair advantage
Collaboration	Supporting another student by allowing your work to be copied or submitted for assessment
Duplication	Presenting the same work for more than one assessment
Falsifying data	Creating or altering data and presenting it as if it had been collected in an appropriate way.
Plagiarism	Copying and representing the ideas or work of another person as your own

It is acknowledged that there are instances in internal assessment when collaboration with other students is permitted or even encouraged eg in data collection, group work, productions etc. This may require some work to be presented that has been created by the whole group. However if the final work for submission is to be a student's own, it must be produced independently.

The most appropriate way for a student to ensure that they do not intentionally or unintentionally commit plagiarism is to **reference** any material has been used from another source.

Consequences of Malpractice: Where malpractice is discovered and proven:

In draft work prior to submission or in course work	Dealt with by Takapuna Grammar School IB Diploma Coordinator informed Parents informed Information filed Work may be resubmitted if there is sufficient time
In work submitted as a final copy prior to submission and cover sheet signed	Dealt with by Takapuna Grammar School IB Diploma Coordinator Parents informed Information filed Work will not be submitted
In work that has been submitted to the IB with cover sheet signed	The school through the IB Diploma Coordinator informs the IB Examination Board. This may result in a student being excluded from the IB Diploma programme

Assessment Information

Absence from Assessment:

Internal assessments

Students are responsible for ensuring that they follow the procedures below if they are unable to meet a deadline for handing in work or will be absent from an internal assessment for any of the following reasons.

- Illness or injury
 - Family trauma
 - Participation in activities sanctioned by the school
1. The student must complete Request for Extension for Internal Assessment Form [*IB Student Form 1*] and hand it to her subject teacher. This form is available from the school's IB Co-ordinator. The form must be signed by parent/guardian before being handed to the teacher. In the case of extension because of absence rather than illness, this must be negotiated prior to the hand in date.
 2. In other cases the student must provide the teacher with written evidence of a valid reason for absence on the day of return to school. For illness a doctor's certificate must be provided for that day.
 3. In the instance where an extension is granted the student must sit the assessment at the first opportunity offered. Lack of formal written communication or unacceptable absence will result in no award for the assessment.

External Assessment

If a student is unable to attend an external examination in the November sessions because of illness or misadventure he or she must inform the Dean and the IB Co-ordinator immediately. The student should attend the examination if possible and provide a medical certificate or other documentation within 24 hours of the examination. The IB Co-ordinator will then complete the appropriate forms and forward them to the IB. Evidence to support any claims for compassionate consideration can only be made, however, if the candidate has completed 50% of the external assessment in each course. A candidate cannot apply for compassionate consideration in more than two of the six subjects

Authenticity statements:

In accordance with the school's Academic Honesty policy, students will be required to sign an authenticity statement on their entry to the school and each year subsequently. This will acknowledge that they are ultimately responsible for ensuring all work submitted for assessment is authentic, with the work or ideas of others fully and correctly acknowledged. This is in addition to any candidate's declaration on coversheets submitted for final assessment or moderation.

Course Outlines:

All students in the IB programme will be issued with course outlines in each subject at the start of the year which will detail the internal and external assessment requirements, the objectives of these assessments and timings.

Ethical Behaviour in Assessment Opportunities:

Students are required to act in a responsible and ethical manner throughout their participation in the Diploma Programme and examinations. The IB Organisation is entitled to refuse to mark or moderate assessment material if a candidate has acted in an irresponsible or unethical manner in connection with any part of assessment for the Diploma Programme, for example, if a candidate includes offensive or obscene material that is unrelated to the content of the assessment. In such cases the IB Final Award Committee is entitled to award a mark of zero for the component that is assessed due to such irresponsible or unethical behaviour.

Final Examinations:

Students will be notified of the external examination timetable at the beginning of the second year of IB. The school's IB Co-ordinator will ensure all students are fully aware of the requirements of the examination and of the conduct required.

Examination results are released to schools and students through the IB website. The school's IB Co-ordinator will provide students with an individual PIN to access these results.

Candidates' examination results may be further checked and their externally assessed work may be re-marked if a school requests an enquiry into results. Any such requests must be made through the school's IB Co-ordinator and will be at the student's expense. Re-marking a candidate's externally assessed material may lead to a higher grade or a lower grade for a subject.

Internal Assessment:

Takapuna Grammar School has a policy and procedures in place to ensure that assessment is fair, valid and consistent.

To be eligible for a subject grade, the student must submit all work for all components in a given subject by the set deadlines. Deadlines for the checking of TOK, CAS and Extended Essay work will be set by the co-ordinators for each of these areas. Students must comply with these dates.

The grades for internally assessed components of the IB Diploma Programme are forwarded to IBCA and form part of the final subject grade awarded.

Special Assessment Conditions:

Where normal examination conditions and assessment procedures would put a candidate at a disadvantage and prevent them from being able to demonstrate their skills and knowledge adequately, special assessment conditions may be authorised. Takapuna Grammar School has procedures in place for the identification of students who qualify for special assessment conditions. Application to the IB for special assessment conditions must be made at least 12 months prior to the final Diploma examinations.

GROUP 1: Literature - English, Chinese (HL and SL)

The Language A: Literature, English course involves the study of literature from a variety of cultural backgrounds over a broad period of time. Texts are selected from a range of genre and, through an emphasis on cultural awareness, students gain an appreciation of people and issues outside of their immediate experience.

The course requires students to dedicate time to reading literature and responding to it verbally and in writing. The skills of analysis are practised to enable students to show their appreciation of previously unseen texts as well as their knowledge and understanding of texts studied in class.

There is an emphasis on discussion and verbal commentaries in order to equip students for assessment in formal oral situations.

Course Outline:

HL and SL core 4 components:

- Part 1: Works in Translation:
- Part 2: Detailed Study:
- Part 3: Literary Genres:
- Part 4: Options

Higher Level students study 13 texts. Standard Level students study 10 texts. Texts include World Literature novels and plays. Poetry, autobiography and short stories including New Zealand texts are also studied in the course.

Assessment

External

HL

(Paper 1)	Two hour exam – literary commentary on one unseen text.	20
(Paper 2)	Two hour exam – essay based on two works studied in Part 3.	25
Written Assignment	Reflective statement and 1200-1500 word essay on one work studied in Part 1.	25

SL

(Paper 1)	One and half hour exam – literary commentary on one unseen text.	20
(Paper 2)	One and half hour exam – essay based on two works studied in Part 3.	25
Written Assignment	Reflective statement and 1200-1500 word essay on one work studied in Part 1.	25

Internal

HL	Individual oral commentary and discussion based on Part 2.	15
	Individual oral presentation based on Part 4	15
SL	Individual commentary based on Part 2.	15
	Individual oral presentation based on Part 4	15

100

Course Outlines: Group 2 Second Language

GROUP 2: French (SL)

IB French is designed for students with a sound intermediate knowledge of the language. It seeks to develop further both language skills for international communication and a high level of intercultural understanding whereby students become aware of cultural similarities and differences and reflect on cultural values and behaviours.

Students learn to understand a range of types of authentic text and to write in a variety of text types. They also learn to interact in oral exchanges in the target language.

Course Outline:

This is a **Standard** Level course that covers both the receptive skills of reading and listening and the productive skills of writing and speaking.

Core Topics

Topic 1: Communication and the Media

Topic 2: Global Issues

Topic 3: Social Relationships

Option Topics

Leisure

Health

Science and Technology

Cultural Diversity

Customs and Traditions

Assessment

SL

(Paper 1)	One and a half hour exam – Receptive skills. Text-handling exercises on four written texts, based on the core.	25
(Paper 2)	One and a half hour exam – Written productive skills. One writing exercise of 250 -400 words from a choice of five, based on the options.	25
Written assignment	Intertextual reading followed by a written exercise of 300 -400 words plus a 100 word rationale based on the core.	20

Internal

SL

Individual Oral – based on the options	15
Interactive oral – based on the core	15
	100

GROUP 2: German (SL)

IB German is designed for students with a sound intermediate knowledge of the language. It seeks to develop further both language skills for international communication and a high level of intercultural understanding whereby students become aware of cultural similarities and differences and reflect on cultural values and behaviours.

Students learn to understand a range of types of authentic text and to write in a variety of text types. They also learn to interact in oral exchanges in the target language.

Course Outline:

This is a **Standard** Level course that covers both the receptive skills of reading and listening and the productive skills of writing and speaking.

Core Topics

Topic 1: Communication and the Media

Topic 2: Global Issues

Topic 3: Social Relationships

Option Topics

Leisure

Health

Science and Technology

Cultural Diversity

Customs and Traditions

Assessment

SL

(Paper 1)	One and a half hour exam – Receptive skills. Text-handling exercises on four written texts, based on the core.	25
(Paper 2)	One and a half hour exam – Written productive skills. One writing exercise of 250 -400 words from a choice of five, based on the options.	25
Written assignment	Intertextual reading followed by a written exercise of 300 -400 words plus a 100 word rationale based on the core.	20

Internal

SL

Individual Oral – based on the options	15
Interactive oral – based on the core	15
	100

GROUP 2: Japanese (SL)

IB Japanese is a comprehensive language course designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in a Japanese Environment. The programme encourages students to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity. Japan has the world's third largest economy and can provide a gateway for language students to pursue lucrative opportunities domestically and abroad.

Course Outline:

This is a **Standard** Level course that covers both the receptive skills of reading and listening and the productive skills of writing and speaking

Core Topics

Topic 1: Communication and the Media

Topic 2: Global Issues

Topic 3: Social Relationships

Option Topics

Leisure

Health

Science and Technology

Cultural Diversity

Customs and Traditions

Assessment

SL

(Paper 1)	One and a half hour exam – Receptive skills. Text-handling exercises on four written texts, based on the core.	25
(Paper 2)	One and a half hour exam – Written productive skills. One writing exercise of 250 -400 words from a choice of five, based on the options.	25
Written assignment	Intertextual reading followed by a written exercise of 300 -400 words plus a 100 word rationale based on the core	20

Internal

SL

Individual Oral – based on the options	15
Interactive oral – based on the core	15
	100

GROUP 2: Spanish, Mandarin ab initio (SL)

IB ab initio courses designed for beginners or those with a very limited knowledge of the language. It seeks to develop both language skills for international communication and a high level of intercultural understanding whereby students become aware of cultural similarities and differences and reflect on cultural values and behaviours.

Students learn to understand a range of types of authentic text and to write in a variety of text types. They also learn to interact in oral exchanges in the target language.

Course Outline:

The course is designed around 3 major themes:

Topic 1: Individuals and Society

Topic 2: Leisure and Work

Topic 3: Urban and Rural Development

Assessment

SL

(Paper 1)	One and a half hour exam – Receptive skills. Reading comprehension skills exercises on four written texts, based on the core.	30
(Paper 2)	One hour exam – Written productive skills. 2 writing exercises.	25
Written assignment	Intertextual reading followed by a written exercise of 200-300 words written under supervision but with a dictionary and approved resource material.	20

Internal

SL

Individual Oral – interactive skills	25
Presentation of a visual stimulus after 15 minutes of preparation	
Follow up questions on the visual stimulus	
General conversation including questions on the written assignment	

100

GROUP 3 Business and Management (HL and SL)

Business and Management examines business decision-making processes and how these decisions impact on and are affected by internal and external environments. It is the study of both the way in which individuals and groups interact in an organization and of the transformation of resources.

It aims to help students understand the implications of business activity in a global market. It is designed to give students an international perspective of business and to promote their appreciation of cultural diversity through the study of topics like international marketing, human resource management, growth and business strategy.

The course encourages the appreciation of ethical concerns and issues of social responsibility in the global business environment. It will contribute to students' development as critical and effective participants in local and world affairs.

Course Outline:

HL and SL core

- Topic 1: Business Organization and Environment
- Topic 2: Human Resources
- Topic 3: Accounts and Finance
- Topic 4: Marketing
- Topic 5: Operations Management

HL only

- Topic 6: Business Strategy

Assessment

External

HL

(Paper 1)	Two and a quarter hour exam based on all 6 topics studied.	40
(Paper 2)	Two and a quarter hour exam based on all 6 topics studied.	35

SL

(Paper 1)	One and a quarter hour exam based on the 5 topics studied.	35
(Paper 2)	One and a quarter hour exam based on the 5 topics studied.	40

Internal

HL and SL	Research Project.	25
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100

GROUP 3: Economics (HL and SL)

Economics is a social science. It aims to give students an understanding of how societies attempt to solve the economic problem of having unlimited wants but only limited supply resources to meet these wants.

The syllabus is divided into four sections:

Micro-economics is the study of how consumers and producers use the market to solve the economic problem and the issues that arise from the limitations and failings of this market.

Macro-economics is the study of the economy as a whole and the major issues that arise from the way in which it operates.

International economics analyses why countries trade and the importance of trade agreements, and the impact that they have on both the exporting and importing countries.

The economic development section looks at the causes of low standards of living and the problems faced by developing countries as they seek to gain economic growth.

Course Outline:

HL and SL:

Topic 1: Microeconomics

Topic 2: Macroeconomics

Topic 3: International Economics

Topic 4: Development Economics

Assessment

External

HL

(Paper 1)	One and a half hour paper. Extended response on Syllabus Content from Topic 1 and Topic 2	30
(Paper 2)	One and a half hour paper. Data response on Topic 3 and Topic 4	30
(Paper 3)	One hour paper. Quantitative Analysis on Topics 1 to 4	20

SL

(Paper 1)	One and a half hour paper. Extended response on Syllabus Content from Topic 1 and Topic 2	40
(Paper 2)	One and a half hour paper. Data response on Topic 3 and Topic 4	40

Internal

HL and SL

Portfolio. Three commentaries, based on different sections of the syllabus and on published extracts from the news media	20
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100

GROUP 3: Geography (HL and SL)

Geography is a dynamic subject that is firmly grounded in the real world. It seeks to develop an understanding of the interrelationship between people, places, spaces and the environment. It is therefore suited to students who wish to learn more about the world around them and the issues and challenges that are affecting us all at the present time.

The geography course embodies global and international awareness in several distinctive ways. It examines key global issues such as poverty, sustainability and climate change. It considers examples and case studies at a variety of scales from local to regional, national and international. The course aims to foster a concern for global issues as well as raising student awareness of their own responsibility as citizens of an increasingly interconnected world.

The geography course requires no specific prior learning. The skills needed are developed within the context of the course itself.

Course Outline:

SL and HL

Part 1: Core Themes

Populations in transition
Disparities in wealth and development
Environmental quality and sustainability
Resource consumption

Part 2: Optional Themes

Leisure, sport and tourism
Hazards and disasters
Fieldwork

HL only

Part 2: Additional theme
The geography of food and health
Part 3: Global Interactions

Assessment

External

HL

(Paper 1)	One and a half hour paper based on core themes	25
(Paper 2)	Two hour paper based on optional themes	35
(Paper 3)	Global Interactions – one essay from a choice of three in a one hour paper	20

SL

(Paper 1)	One and a half hour paper based on core themes	40
(Paper 2)	One hour and 20 minute paper based on optional themes	35

Internal

HL and SL

Field work with a written component based on 20 hours work	25
	100

GROUP 3: History (HL and SL)

Route 1 – History of Europe and the Islamic World

I.B History examines historical processes, their causes and effects and encourages critical thinking through study of past events, individuals and cultures.

It aims to promote an understanding of history as a discipline, including the nature and diversity of its sources and their interpretations, encourage understanding of the present through critical reflection upon the past and an understanding of the impact of historical developments. Finally, it aims to develop an awareness of a student's own historical identity through the study of the historical experiences of different cultures.

Specifically, This course will focus on Islam, its rise, rule, expansion, and contacts with other cultures, both European and Asian.

Course Outline:

HL and SL core

Subject 1 –
The Origins and Rise of Islam
Rulers and Dynasties
Wars and Warfare

HL only

The Crusades
The Mongols
The Ottoman Empire

Assessment

External

HL

(Paper 1)	One hour paper, 4 short answers, based on the Origins and rise of Islam	20
(Paper 2)	One and a half hour paper, 2 long answers, based on Rulers and Dynasties and Wars and Warfare	25
(Paper 3)	Two and a half hour paper, 3 long answers, based on The Crusades, the Mongols and the Ottomans	35

SL

(Paper 1)	One hour paper, 4 short answers, based on the Origins and rise of Islam
(Paper 2)	One and a half hour paper, 2 long answers, based on Rulers and Dynasties and Wars and Warfare

Internal

HL and SL

Historical investigation on any aspect of the course based on 20 hours work

100

GROUP 4: Biology (HL and SL)

The Biology course is about the interactions between organisms and their environment, the nature of cells, chemicals and systems that are important to life and how species change over time. It will help to develop greater expertise in the area of practical work and the link between theory and experimental work.

Students become aware of how scientists work and communicate with each other. They also enjoy opportunities for scientific study and creative inquiry within a global context and to recognise how biology and biotechnology can be used responsibly within international scientific organisations.

Course Outline:

HL and SL Core

Topic 1: Statistical analysis

Topic 2: Cells

Topic 3: The chemistry of life Topic 4: Genetics

Topic 5: Ecology and evolution

Topic 6: Human health and physiology

HL Additional study

Topic 1: Nucleic acids and proteins

Topic 2: Cell respiration and photosynthesis

Topic 3: Plant science

Topic 4: Genetics

Topic 5: Human Health and Physiology

Options

Evolution (SL/HL)

Neurobiology and behaviour (SL/HL)

Microbes and biotechnology (SL/HL)

Ecology and conservation (SL/HL)

Further human physiology (HL)

Human nutrition and health (SL)

Physiology of exercise (SL)

Cells and Energy (SL)

Assessment

External

HL

(Paper 1)	One hour paper. Multichoice exam covering all core topics (no calculator)	20
(Paper 2)	Two hour twenty five minute paper. Short answer and extended response exam covering the core topics	36
(Paper 3)	One hour twenty five minute paper. Short answer and extended response exam covering the options studied	20

SL

(Paper 1)	One and a quarter hour paper. Multichoice exam covering all core topics (no calculators)	20
(Paper 2)	One hour twenty five minute paper short answer and extended response exam covering the core topics	32
(Paper 3)	One hour paper. Short answer and extended response exam covering the options studied	24

Internal

HL and SL

Practical Programme	24
A collaborative project	

100

GROUP 4: Chemistry (HL and SL)

The IB Chemistry course combines academic study with the acquisition of practical and investigational skills through experimental approach. Students learn the chemical principles that underpin both the physical environment and biological systems through the study of quantitative chemistry, periodicity, kinetics, organics, aqueous systems and other subjects.

The course is designed to:

- provide a body of knowledge, and methods that characterize science and technology.
- develop an ability to analyse, evaluate and synthesize scientific information while developing the appropriate experimental and investigative skills engender an awareness of the importance of effective collaboration and communication during scientific activities.

The course aims to raise awareness of the social, moral, economic and environmental implications of using science and technology. It is designed to encourage students to develop critical thinking and reflective skills in order to see themselves as scientists in an international setting.

Course Outline:

HL and SL core

- Topic 1: Quantitative chemistry
- Topic 2: Atomic structure
- Topic 3: Periodicity
- Topic 4: Bonding
- Topic 5: Energetics
- Topic 6: Kinetics
- Topic 7: Equilibrium
- Topic 8: Acids and bases
- Topic 9: Oxidation and reduction
- Topic 10: Organic chemistry
- Topic 11: Measurement and data

2 Option Topics (to be confirmed)

HL only

All topics to be explored in greater depth

Assessment

External

HL

(Paper 1)	One hour paper. Multichoice exam covering all core topics (no calculator)	20
(Paper 2)	Two hour twenty five minute paper. Short answer and extended response exam covering the core topics	36
(Paper 3)	One hour twenty five minute paper. Short answer and extended response exam covering the options studied	20

SL

(Paper 1)	One and a quarter hour paper. Multichoice exam covering all core topics (no calculators)	20
(Paper 2)	One hour twenty five minute paper short answer and extended response exam covering the core topics	32
(Paper 3)	One hour paper. Short answer and extended response exam covering the options studied	24

Internal

HL and SL

Practical Programme	24
A collaborative project	

100

GROUP 4: Physics (HL and SL)

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself, from the very smallest particles—quarks (perhaps 10–17 m in size), which may be truly fundamental—to the vast distances between galaxies (10²⁴ m).

Classical physics, built upon the great pillars of Newtonian mechanics, electromagnetism and thermodynamics, went a long way in deepening our understanding of the universe. Newtonian mechanics failed when applied to the atom and has been superseded by quantum mechanics and general relativity.

The Diploma Programme physics course allows students to develop traditional practical skills and techniques and to increase facility in the use of mathematics, which is the language of physics. It also allows students to develop interpersonal skills, and information and communication technology skills, which are essential in modern scientific endeavour and are important life-enhancing, transferable skills in their own right.

Course Outline:

The syllabus for the Diploma Programme physics course is divided into three parts:

Core

- Topic 1: Physics and physical measurement
- Topic 2: Mechanics
- Topic 3: Thermal physics
- Topic 4: Oscillations and waves
- Topic 5: Electric currents
- Topic 6: Fields and forces
- Topic 7: Atomic and Nuclear physics
- Topic 8: Energy power and climate change

Options SL

- Topic 9: Sight and wave phenomena
- Topic 10: Astrophysics

HL (Additional)

- Topic 11: Motion in fields
- Topic 12: Thermal physics
- Topic 13: Wave phenomena
- Topic 14: Electromagnetic induction
- Topic 15: Quantum and nuclear physics
- Topic 16: Digital technology

Options HL

- Astrophysics
- Relativity

Assessment

External

HL

(Paper 1)	One hour paper, 40 multiple choice questions on the HL and SL topics	20
(Paper 2)	Two and a quarter hour paper. One data based question and two extended response questions on the core and HL syllabus	36
(Paper 3)	One and a quarter hour paper. Several short answer questions and one extended response question in each of the two options studied	20

SL

(Paper 1)	Three quarter hour paper, 30 multiple choice questions on the core syllabus	20
(Paper 2)	One and a quarter hour paper. One data based question and one extended response questions on the core syllabus	32
(Paper 3)	One hour paper. Several short answer questions in each of the two options studied	24

Internal

HL and SL

Practical component internally assessed	24
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GROUP 5: Mathematics (HL)

The course focuses on developing important mathematical concepts in a comprehensible, coherent and rigorous way. This is achieved by means of a carefully balanced approach. Students are encouraged to apply their mathematical knowledge to solve problems set in a variety of meaningful contexts. Development of each topic should feature justification and proof of results. Students embarking on this course should expect to develop insight into mathematical form and structure, and should be intellectually equipped to appreciate the links between concepts in different topic areas. They should also be encouraged to develop the skills needed to continue their mathematical growth in other learning environments.

The internally assessed component, the exploration, offers students the opportunity for developing independence in their mathematical learning. Students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas. The exploration also allows students to work without the time constraints of a written examination and to develop the skills they need for communicating mathematical ideas.

This course is a demanding one, requiring students to study a broad range of mathematical topics through a number of different approaches and to varying degrees of depth.

Course Outline:

HL core

- Topic 1: Algebra
- Topic 2: Functions and Equations
- Topic 3: Circular functions and Trigonometry
- Topic 4: Vectors
- Topic 5: Statistics and Probability
- Topic 6: Calculus

Option

- Topic 7: Statistics and Probability

A graphics display Calculator is required for this course.

Assessment

External

HL

(Paper 1)	Two hour paper. Section A, short response questions, Section B, extended response questions. No calculator allowed	30
(Paper 2)	Two hour paper. Section A, short response questions, Section B: extended response questions. GD calculator required	30
(Paper 3)	One hour paper. Extended response questions on syllabus option GD Calculator required	20

100

GROUP 5: Mathematics (SL)

This course caters for students who already possess knowledge of basic mathematical concepts, and who are equipped with the skills needed to apply simple mathematical techniques correctly. The majority of these students will be expected to have a sound background in mathematics to prepare for and assist them in future studies such as chemistry, economics, psychology and business administration. The Mathematics SL course will provide students with the opportunity to approach mathematical concepts with a variety of mathematical techniques.

Students will learn to think both logically and creatively, and be able to apply abstract concepts to practical situations. Student will be engaged in mathematical modelling processes and learn to develop, apply and critically analyse models. Technology will be incorporated throughout the course, and students will get the opportunity to utilize it to enhance visualisation and analysis of mathematical data and ideas.

This course will allow students to explore the usefulness, relevance and occurrence of mathematics in the real world, and encourage them to approach mathematics via inquiry and with international mindedness.

Course Outline:

SL core

Topic 1: Algebra

Topic 2: Functions and Equations

Topic 3: Circular Functions and Trigonometry

Topic 4: Vectors

Topic 5: Statistics and Probability

Topic 6: Calculus

Mathematical Exploration: internal written work

Assessment

External

(Paper 1):	One and half hour paper based on all 6 topics, no calculator allowed	40
		40

(Paper 2):	One and half hour paper based on all 6 topics, calculator allowed	
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Internal

Thematic Exploration		20
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GROUP 5 Mathematical Studies (SL)

This course caters for students with varied backgrounds and abilities. More specifically, it is designed to build confidence and encourage an appreciation of mathematics in students who do not anticipate a need for mathematics in their future studies. Students taking this course need to be already equipped with fundamental skills and a rudimentary knowledge of basic processes.

The course concentrates on mathematics that can be applied to contexts related as far as possible to other subjects being studied, to common real-world occurrences and to topics that relate to home, work and leisure situations. The course includes project work, a feature unique within this group of courses: students must produce a project, a piece of written work based on personal research, guided and supervised by the teacher. The project provides an opportunity for students to carry out a mathematical investigation in the context of another course being studied, a hobby or interest of their choice using skills learned before and during the course. This process allows students to ask their own questions about mathematics and to take responsibility for a part of their own course of studies in mathematics.

Course Outline:

SL core

- Topic 1: Number and algebra
- Topic 2: Descriptive Statistics
- Topic 3: Sets, logic and probability
- Topic 4: Statistical Applications
- Topic 5: Geometry and trigonometry
- Topic 6: Mathematical Models
- Topic 7: Introduction to differential calculus

Project work: internal individual written piece of work involving the collection of information or the generation of measurements, and the analysis and evaluation of the information or measurements

A graphics display Calculator is required for this course.

Assessment

External

SL

(Paper 1): One and half hour paper, 15 short response questions **40**

(Paper 2): One and half hour paper, 6 extended response questions **40**

Internal Assessment: project work **20**

100

GROUP 6: Performing Arts (HL and SL)

Students will work inside the NCEA class sharing much of the theatre experience enjoyed at Years 12 and 13. The first year introduces the areas of study which are Theatre Making, Theatre in Performance and World Theatre. Students will experience work in areas and are expected to record their learning and developing understanding of how theatre is made.

They study forms of theatre such as Japanese Kabuki and Shakespeare and theorists like Bertolt Brecht and attend theatre productions, analyzing and critiquing the works they meet. Students must also perform different roles as actors and also act as directors, dramaturgs and technical assistants in the productions done by the Drama classes.

In the second year they present projects for assessment based on their experiences over the two years including an independent Research Investigation of a theatrical area of interest and an Independent Project the student has conceived and undertaken independently of class work.

Course Outline:

HL and SL

Topic 1: Theatre Making

Topic 2: Theatre in Performance

Topic 3: Theatre in the World

Assessment

External

HL

Research Investigation of a topic done independently of class time. Up to 2500 words **25**

Practical performance proposal of 250 words with visuals, outlining a plan for a production and a report of up to 1200 words **25**

SL

Research Investigation of a topic done independently of class time. Up to 1750 words **25**

Practical performance proposal of 250 words with visuals, outlining a plan for a production and a report of up to 250 words **25**

Internal

HL and SL

Theatre performance and production presentation describing thinking about theatre from experiences over the two years in a talk before the class and teacher of 30 minutes for HL, 20 minutes for SL **25**

Independent project portfolio recording work on the Independent Project of up to 3000 words at HL and 2000 words at **25**

GROUP 6: Visual Arts (HL and SL)

The IB Visual Arts program aims to develop students skills and techniques of investigation- both written and visual. They will learn to extend individual investigations to inform their practical work, and be able to make connections between ideas and practice. Students will learn to explore art concepts and will develop confidence and expertise in the use of various media. They will develop and use the processes of art criticism and analysis, and share their work through exhibitions and displays.

Course Outline:

HL and SL

Year 1

Students will explore a range of ideas and media around a proposed topic, that is supported by a statement of intent.

Year 2

Using in-depth and critical research, Students will extend their ideas towards an independent project that shows an understanding of applied art knowledge

Assessment

- Checkpoints will be scheduled throughout the year to monitor each student’s progress.
- Final assessment will be by exhibition and interview.

HL

Option A

Studio Work – Students explore art concepts and techniques through practical work in the studio, which will be linked to the investigation in their workbooks. **40**

Investigation Workbook – Records a personal investigation into the visual arts, and supports studio work. **60**

Option B

Studio Work – Students explore art concepts and techniques through practical work in the studio, which will be linked to the investigation in their workbooks. **60**

Investigation Workbook – Records a personal investigation into the visual arts, and supports studio work. **40**

SL

Option A

Studio Work – Students explore art concepts and techniques through practical work in the studio, which will be linked to the investigation in their workbooks. **60**

Investigation Workbook – Records a personal investigation into the visual arts, and supports studio work. **40**

Option B

Studio Work – Students explore art concepts and techniques through practical work in the studio, which will be linked to the investigation in their workbooks. **40**

Investigation Workbook – Records a personal investigation into the visual arts, and supports studio work. **60**

100

OPTION FUTURES SHEET

These are Takapuna Grammar School's requirements each year:

Year 9	Year 10	Year 11
English Maths Science Social Studies P/E &Health 2 Languages Arts Technology	English Maths Science Social Studies P/E and Health Enterprise & Financial Literacy 3 options - Arts, Languages, Technology	A course of English A course of Mathematics A course of Science 3 other subjects

		Level 1
The Arts Visual Arts	The Arts Visual Arts	Visual Art Creative Approaches to Design
Drama Dance Music	Drama Dance Music	Drama Dance Music
English ESOL	English Literacy Support ESOL	English English Literacy <i>ESL X & Y</i> EAP1 & EAP2 Media Studies
	Enterprise & Financial Literacy	Accounting Business Studies Economics Economics / Accounting
French German Japanese Spanish Te Reo Maori	French German Japanese Spanish Te Reo Maori	French German Japanese Te Reo Maori <i>Maori Culture & Performance</i>
Mathematics	Mathematics	Mathematics Maths Applied
Technology	Visual Communication Technology - Food Technology - Resistant Material Technology - Soft Materials	Visual Communication Technology - Food & Nutrition Technology - Resistant Materials Technology- Soft Materials
Science	Science	Science <i>Science Alternative</i> Biology Chemistry Physics
Social Studies	Social Studies	Geography History
Health and PE Sports Institute	Health and PE Sports Institute	Physical Education Health
Learning Support	Learning Support	Personal Development Programme

Subjects in *Italics* are mainly Unit Standard based
and approved subjects for **Year 13** are in **bold**

Year 12	Year 13
A course of English 5 other subjects	6 subjects (may include Study)
International Baccalaureate (2 Year Course) Choose one subject from each Groups 1 to 5 and one from Group 6 OR an additional one from Groups 2 to 5 (at least 3 subjects should be at Higher Level (HL))	

Level 2	Level 3 & Scholarship * (Level 4)	International Baccalaureate
Visual Art Paint Visual Art Design Visual Art Photography Visual Art Paint/Sculpture Art History	Visual Art Paint Visual Art Design Visual Art Photography Art History *	Visual Arts (G6) SL
Drama Dance Music Music Theatre	Drama * Music Theatre Dance * Music *	Theatre Arts (G6) HL/SL
English EAP1 & 2 <i>ESL X & Y</i> Media Studies	English * English Literacy EAP2 Media Studies *	English Language (G1) HL/SL English Language and Literature (G1) HL/SL
Accounting Business Studies Economics <i>Legal Studies</i>	Accounting * Business Studies Economics *	Business and Management (G3) HL/SL Economics (G3) HL/SL
French German Japanese Te Reo Maori <i>Maori Culture & Performance</i> Spanish (Level 1)	French * German * Japanese * Te Reo Maori <i>Maori Culture & Performance</i>	French (G2) SL German (G2) SL Japanese (G2) SL Spanish ab initio (G2) SL
Mathematics Maths Applied	Statistics and Modelling * Maths with Calculus *	Mathematics (G5) HL/SL Mathematical Studies (G5) SL
Visual Communication Hospitality Technology - Resistant Materials Technology- Soft Materials Technology Furniture Making	Visual Communication * <i>Hospitality</i> Technology - Resistant Materials * Technology- Soft Materials * Computing Design Technology * <i>Technology Furniture Making</i>	
Biology Chemistry Physics	Biology * Chemistry * Physics *	Biology (G4) HL/SL Chemistry (G4) HL/SL Physics (G4) HL/SL
Geography History Classical Studies <i>Tourism</i>	Geography * History * Classical Studies * <i>Tourism</i>	Geography (G3) HL/SL History (G3) HL/SL
Physical Education Performance Physical Education Health	Physical Education * Performance Physical Education Health	
<i>Personal Development Programme</i>	<i>Personal Development Programme</i>	Extended Essay, CAS, TOK

