# Diploma Program (Year 11 & 12) Curriculum Handbook

**Inspiring Great Minds** 



**Queensland Academy** for Science Mathematics and Technology



## Contents

CONTENTS	2
INTRODUCTION	4
OUR MISSION AND VALUES	5
KEY ASPECTS OF THE IB DIPLOMA PROGRAMME	6
THE IB DIPLOMA PROGRAMME CURRICULUM THE IB DIPLOMA PROGRAMME CORE THE IB LEARNER PROFILE	6 7 7
UNDERSTANDING THE IB DIPLOMA REQUIREMENTS	8
EXAMINATION RESULTS	10
THE IB DIPLOMA AND THE QCE	10
THE IB DIPLOMA AND UNIVERSITY ENTRANCE	11
How IS MY ATAR CALCULATED IN AUSTRALIA?	11
CAN I GET CREDIT FOR IB SUBJECTS AT UNIVERSITY?	12
ACADEMIC INTEGRITY AND STUDENT CONDUCT	13
COLLUSION VERSUS COLLABORATION	14
IB DIPLOMA PROGRAMME CORE	15
CREATIVITY, ACTIVITY AND SERVICE	15
Aims Core Creativity, Action and Service - IBO Assessment Requirements	15 15
EXTENDED ESSAY	16
Aims	16
THEORY OF KNOWLEDGE	10 17
Aims	17
Core Theory of Knowledge - IBO Assessment Requirements	17
GROUP 1 – STUDIES IN LANGUAGE AND LITERATURE	18
1.1 ENGLISH A LANGUAGE AND LITERATURE (SL/HL).	18
Aims Svllabus Outline	10 19
Group 1 Language and Literature - IBO Assessment Requirements	19
1.2 LANGUAGE A LITERATURE (SL)- SCHOOL SUPPORTED SELF-TAUGHT - SSST (MOTHER TON	IGUE
	20
2.1 LANGUAGE AD INITIO EDENCH GEDMAN LADANESE AND SDANISH (SL)	21
Aims	21
Syllabus Outline	22
Group 2 Language ab initio - IBO Assessment Requirements	22
GROUP 3 – INDIVIDUALS & SOCIETIES	23
3.1 BUSINESS MANAGEMENT (HL)	23
Syllabus Outline	23
Group 3 Business Management - IBO Assessment Requirements	24
3.2 ECONOMICS (HL)	<b>24</b>
Syllabus Outline	25
Group 3 Economics - IBO Assessment Requirements	25

3.3 INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY (HL)	25
Aims	26
Syllabus Outline	26
Group 3 ITGS - IBO Assessment Requirements	27
3.4 PSYCHOLOGY (HL)	27
Aims	28
Syllabus Outline	28
Group 3 Psychology - IBO Assessment Requirements	29
GROUP 4 – SCIENCES	30
4.1 EXPERIMENTAL SCIENCES - BIOLOGY, CHEMISTRY, PHYSICS, SPORT, EXERCISE AND HEALTH SCIENCE	≡ <b>30</b>
Aims	30
4.1.1 BIOLOGY (SL/HL)	31
Syllabus Outline	31
Group 4 Biology - IBO Assessment Requirements	31
4.1.2 CHEMISTRY (SL/HL)	32
Syllabus Outline	32
Group 4 Chemistry - IBO Assessment Requirements	33
4.1.3 Physics (SL/HL)	33
Syllabus Outline	33
Group 4 Physics - IBO Assessment Requirements	34
4.1.4 SPORT, EXERCISE AND HEALTH SCIENCE (HL)	34
Syllabus Outline	35
Group 4 SHES - IBO Assessment Requirements	35
4.2 COMPUTER SCIENCE (HL)	35
Aims	36
Syllabus Outline	37
Group 4 Computer Science - IBO Assessment Requirements	37
GROUP 5 – MATHEMATICS	38
Aims	39
Syllabus Outline	39
5.1 MATHEMATICS ANALYSIS AND APPROACHES (SL/HL)	40
Group 5 Mathematics analysis and approaches - IBO Assessment Requirements	40
5.2 MATHEMATICS APPLICATIONS AND INTERPRETATION (SL/HL)	41
Group 5 Mathematics applications and interpretation - IBO Assessment Requirements	41
GROUP 6 – THE ARTS	42
6.1 VISUAL ART (HL)	42
Aims	42
Group 6 Visual Arts - IBO Assessment Requirements	43
SUBJECT SELECTION	44



## Introduction

Dear Parents and Carers

Students will be commencing their International Baccalaureate Diploma Programme at the beginning of next year. Each student should be continuing with the subjects they have studied in the Year 10 Diploma Preparation Program. During Term 3, Year 10 students are required to identify the level of study as either Standard Level (SL) or Higher Level (HL) for their six subjects. Students will need to have selected three SL subjects and three HL subjects in order to comply with Diploma requirements.

To help families make these selections, this booklet provides an overview of the curriculum as one of a number of strategies to ensure that students make informed choices that comply with the arrangements of the Academy and the rules of the IB Diploma Programme. While the Academy aims to offer all subjects and levels listed in this booklet, it is important to note that this will be dependent on class numbers and the Academy's staffing capacity. Some subjects may not be able to be offered if minimum numbers are not met.

Students have had access to many different sources of information to assist them with their selections and these include:

- The Senior Education and Training Plan process with the Guidance Officer and House Deans.
- Individual academic performance data.
- Subject selection presentations.
- Individual subject and level recommendations, developed in consultation with the Heads of Department and House Deans, communicated by letter.
- IB Diploma Programme (Year 11 & 12) Curriculum Handbook

Students are required to complete their IB Diploma Programme subject selection online. Details, including web address, username and password, for the online selection will be provided by email. The subjects available for selection are listed at the back in this booklet. The checklist on the subject selection page should be used as a guide to deciding on your subject selections. Students should complete the online subject selection when requested, based on the subject and level recommendations they have received. If a student wishes to choose a subject or level they have not been recommended for they must meet with their House Dean to discuss their decision. All subject selections outside of recommendations must be made in a meeting with the Deputy Principal Academic, student and parents.

Regards,

#### Tanya Haggarty

Deputy Principal Academic Queensland Academy for Science, Mathematics and Technology

# **Our Mission and Values**

#### Our Vision

A world-class education that nurtures excellence and fosters global citizenship for an everchanging world.

#### Our Focus

A STEM education enriched through a broad liberal arts curriculum.

#### Our Purpose

We will educate our young people to:

- be life-long, curious, agile and resilient learners
- think critically and use evidence-based decision making to imagine and realise change
- · be effective collaborators and communicators in disciplinary and interdisciplinary contexts
- use technology strategically and ethically
- contribute to and impact on the world around them in ethical and sustainable ways
- interest in local and global cultural contexts with knowledge of and respect for diverse cultural perspectives.

#### **Our Values**

Inquirers	Open-minded
Knowledgeable	Caring
Thinkers	Risk-takers
Communicators	Balanced
Principled	Reflective

#### International Baccalaureate Mission Statement

A world-class education that nurtures excellence and fosters global citizenship for an everchanging world.



## Key aspects of the IB Diploma Programme

The International Baccalaureate (IB) Diploma Programme is a rigorous and academically challenging pre-university curriculum for students aged from 16 to 19 years. The programme emphasises the importance of breadth and depth in academic study whilst maintaining a focus on the very way we understand knowledge through the *Theory of Knowledge* course. Students are encouraged to become active global citizens and understand the importance of care and compassion in an increasingly globalised world. The Diploma encourages students to develop their physical, emotional, intellectual and ethical selves and as such is well regarded and recognised by the world's leading universities.

## The IB Diploma Programme Curriculum

The IB curriculum can be best understood through the *IB Circle* (Figure 1). Students must study six subjects when undertaking the Diploma programme, with one subject being chosen from each of Groups 1 to 5. The sixth subject may come from Group 4 or 6. Three subjects must be studied at standard level (equivalent of 150 teaching hours each subject) and three at higher level (equivalent of 240 teaching hours each subject).

During the two-year programme students will also complete an *Extended Essay*, follow a *Theory of Knowledge* course and participate in the *Creativity*, *Activity* & *Service* course.

The International Baccalaureate Organisation (IBO) has comprehensive guidelines that must be adhered to in order for students to receive the IB Diploma qualification. A summary of these requirements is provided in this guide.



Figure 1: The IB Diploma Programme curriculum overview

## The IB Diploma Programme Core

At the core of the Diploma Programme are the three course requirements that broaden the Diploma program experience and require students to apply their knowledge and understanding. The core includes the *Theory of Knowledge* course, the *Extended Essay* and *Creativity, Activity and Service*.

- **The Extended Essay** is a requirement for students to engage in independent research through an in-depth study of a question relating to one of the subjects they are studying.
- 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).
- Creativity, Activity and Service requires that students actively learn from the experience of doing real tasks beyond the classroom. Students can combine all three components or do activities related to each one of them separately.

These core requirements will be explored in detail in this guide.

## The IB Learner Profile

The aim of all IB programmes is develop international mindedness in students who, recognising their common humanity and shared guardianship of the planet, help to create a better and more peaceful world. IB learners strive to be:

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

# Understanding the IB Diploma Requirements

The following information provides a 'quick reference' summary of key elements of the IB Diploma Programme requirements. The IB requires all candidates and schools to adhere to these programme guidelines without exception.

- A student must engage in the full program of subjects from each of the six groups. The only exception to this is the option to study the sixth subject by selecting a second subject from one of the other groups (at QASMT students can select a second Group 4 or a Group 6 subject).
- A student must complete all core programme requirements. This includes successful completion of:
  - ✓ Creativity, Activity and Service.
  - ✓ Theory of Knowledge.
  - ✓ Extended Essay.

#### Higher Level / Standard Level Subjects

- Of the six subjects studied a minimum of three (3) must be studied at Higher Level and the remainder at Standard Level.
- The difference in Higher / Standard Level is the number of teaching hours required.
  - ✓ Higher Level (HL) 240 hours.
  - ✓ Standard Level (SL) 150 hours.
- Different subjects differentiate between the HL / SL courses in different ways:
  - $\checkmark$  Core standard course in both with additional topics in HL.
  - $\checkmark$  The same topics in each but covered to a different depth.
  - ✓ Differing assessment requirements.

#### Subject Grading

- Achievement in each group subject is graded from a 7 (highest) to a 1 (lowest).
- HL / SL subjects are treated in the same way when contributing to the overall Diploma score (i.e. a 6 grading in an SL subject is not worth less than a 6 grading in the equivalent HL subject).
- Inner core subjects, Theory of Knowledge and Extended Essay are graded from A to E.
- CAS is graded as satisfactory or unsatisfactory.
- A maximum score of 45 can be achieved in a Diploma.

$\checkmark$	6 subjects x grading of up to 7	= 42 points
$\checkmark$	TOK + Extended Essay bonus points	= 3 points

= 45 points total

#### Achieving the Diploma Qualification

- The Diploma programme requires that students meet a number of requirements. These requirements are summarised in the table below.
- A student who does not successfully complete the Diploma may retake assessment within the IB up until 12 months after the Year 12 November exams. The two opportunities coincide with the May IB exam session and the following November session. There is a fee incurred for all retakes.

Criteria	IB Diploma Score ( /45,
CAS requirements are met	Satisfactory
Total points	>=24
TOK and EE minimum grade	D
Subject minimum grade	2
No. 2 grades in subjects	Max 2 subjects
No 3 grades in subjects	Max 3 subjects
Higher Level (HL) points	>=12

Table 1: Conditions for Diploma Qualification Award

#### Award of Inner Core Points

Standard Level (SL) points

• Up to 3 Inner Core points can be awarded from the successful completion of the *Extended Essay* and *Theory of Knowledge* course.

>=9

 Points are awarded according to the grade combination of the *Extended Essay* and *Theory of Knowledge* course according to the following matrix:

		Theory of Knowledge				
		A	В	С	D	Е
, Ke	А	3	3	2	2	Faili
Essa	В	3	2	2	1	ing c
led I	С	2	2	1	0	ondi
tenc	D	2	1	0	0	tion
ШX	E		F	ailing conditio	on	

Figure 2: IB Diploma Inner Core Points Matrix.

# **Examination Results**

Examination results are available in December following the November examination session. Student results are released directly to QTAC (Queensland Tertiary Admissions Centre), UAC (Universities Admissions Centre – NSW & ACT) and VTAC (Victorian Tertiary Admissions Centre). Students wishing to have their results released to other admissions centres or universities are required to liaise with the IB Coordinator (Mr Leong) in person well before their examination session.

Students successfully completing the Diploma programme will receive their Diploma in late March following the November examination session. Each student's Diploma will indicate the grade a candidate has been awarded for each subject, including the additional Diploma requirements of *Theory of Knowledge* and the *Extended Essay*. The results will also indicate the successful completion of *Creativity, Activity and Service* and total number of points for the qualification award.

# The IB Diploma and the QCE

Students studying the IB Diploma Programme in Queensland also have the opportunity to gain a second qualification parallel to their Diploma studies. This qualification is the *Queensland Certificate of Education* or QCE. Below is information pertaining to the QCE and it's relationship to the IB Diploma Programme.

- 1. The Queensland Curriculum and Assessment Authority (QCAA) issues the QCE qualification whilst the International Baccalaureate Organisation (IBO) issues the IB Diploma qualification.
- 2. The IBO sends the results of students directly to the QCAA.
- 3. The QCE is issued by the QCAA twice a year in December (for most Queensland students) and July.
- 4. There are set criteria for obtaining the IB Diploma and separate criteria for the QCE. In most cases if a student achieved the Diploma they will achieve the QCE but there are exceptions. A student may receive the Diploma, but not the QCE. Likewise a student may receive a QCE, but not a Diploma.
- 5. The QCE requires students to show a literacy and numeracy standard. This criterion is satisfied by achieving a grade 4 level of achievement in an IB Mathematics or English course or a grade 3 and having achieved a grade of 4 or higher for the internal assessment component.
- 6. A student's QCE account remains open for nine (9) years but closes as soon as the requirements have been met and the QCE issued.
- 7. Tertiary entrance does not depend on the attainment of the QCE. In most cases tertiary entrance depends on the achievement level within the programme being studied.
- 8. All students have a learning account with the QCAA which can be accessed through the Career Information Service website. Student's use their LUI number and password. All QASMT students will be issued with their account details once available. This account shows the subjects they are studying and any courses they may have completed, eg. AMEB Level 5. The registered learning organisation responsible the delivery of that course submits these results to the QCAA directly (eg. South Bank Institute for Cert III qualification).

# The IB Diploma and university entrance

International Baccalaureate examinations are accepted around the world as a qualification for university entrance. Since 1969, IB students have entered over 3,300 universities in Europe, the Americas, Asia, Africa, and Australia, and the list of institutions accepting IB students, which includes the most prestigious institutions in 90 countries throughout the world, is growing every year.

Many university admissions personnel have stated that they prefer IB students because the IB course develops a variety of skills needed for university study, and successful IB graduates have already demonstrated the ability to work at this level. In addition, IB students, having studied a range of subjects, can make a more informed choice of undergraduate programmes. Many employers, too, recognise the value of analytical skills, flexibility and adaptability, all of which are stressed in the IB programme. Thus, the IB programme offers not only preparation for university, but also for life after university. The IB Programme is a pre-university course which requires that each student design a course suited to his or her needs and interests.

Individual university websites should be consulted to determine the entrance processes required. In Australia, selection to university for domestic students is most commonly done through the tertiary admission centres for each state.

- Queensland Centre: Queensland Tertiary Admissions Centre (QTAC)
- New South Wales/ACT Centre: University Admissions Centre (UAC)
- Victoria Centre: Victorian Tertiary Admissions Centre (VTAC)
- South Australia/NT Centre: South Australian Tertiary Admissions Centre (SATAC)
- Western Australia Centre: Tertiary Institutions Service Centre (TISC)

### How is my notional ATAR calculated in Australia?

Across Australia, a common national measure of Year 12 student achievement is used in the tertiary selection process. Expressed in a scale extending from 99.95 (highest) to 30 (lowest), this common national measure is called the Australian Tertiary Admissions Rank (ATAR). A student's IB Diploma score (out of 45) is converted to a notional score related to the common national measure for the purposes of tertiary entrance in Australia. This conversion and other information about how to convert IB scores to a notional ATAR is available at <a href="http://www.qtac.edu.au/for-schools/international-baccalaureate--ib--studies/international-baccalaureate--ib--studies/international-baccalaureate--ib--studies/international-baccalaureate--ib--studies/international-baccalaureate--ib-studies. It is important to note that a notional ATAR is only awarded to students who achieve an IB Diploma. If an IB Diploma is not attained, alternative entry pathways to university will need to be used.

Our Guidance Officer, Ms Katrina Judge, also offers advice to all students and families on this conversion. Note that ATAR conversions do change each year and are usually updated by ACTAC in December after the November exams are completed.

## What are Adjustment Factors (previously Bonus Ranks)?

Adjustment factors/bonus rank schemes are currently operated by many Australian Universities including Griffith University, Queensland University of Technology, and The University of Queensland for students who intend to apply to commence tertiary study at these institutions in any given year. Numerous other universities outside of Queensland also offer similar schemes. Schemes vary among universities so it is important to investigate each of the university admissions websites for current details of adjustment factors/bonus rank schemes. Adjustment

factors are awarded by universities following the submission of the QTAC application in Queensland.

Students may gain a number of adjustment factors. The maximum number of adjustment factors awarded will depend on the institution at which tertiary study is being applied for.

At UQ the maximum number of adjustment factors for any one student is five. Two adjustment factors are awarded for study of a language other than English and the maximum enrichment adjustment is one point, irrespective of how many subjects have been studied.

Adjustment factors are applied <u>after</u> the IB score has been converted to an ATAR. Adjustment factor schemes are regularly reviewed and students are encouraged to regularly check university admissions sites for details of updated schemes.

## Can I get credit for IB Subjects at University?

Students who obtain minimum grades for some International Baccalaureate Diploma Programme subjects will be able to access course credits at university. Much like the adjustment factor schemes these arrangements may differ slightly for each institution and as such students should closely review the admissions websites for up to date information on course credit arrangements.

# Academic Integrity and Student Conduct

The Queensland Academy for Science, Mathematics & Technology supports the IBO in its approach to academic integrity which promotes the development of a set of values around personal integrity in the areas of teaching, learning and assessment.

Malpractice in the area of academic integrity is defined as behaviour that may result in a candidate gaining an unfair advantage in an assessment component. Areas of malpractice include:

- Intentional Plagiarism the representation of another's work as your own.
- Unintentional plagiarism the careless paraphrasing and citing of source material such that improper or misleading credit is given.
- Collusion allowing your work to be copied by another, and therefore supporting and facilitating malpractice.
- Duplication submitting the same work for different IB assessment components.
- Any other area where a student can gain an unfair advantage such as cheating in an exam, falsifying a CAS record, fabricating data for an assignment or practical investigation.

To assist students in understanding the requirements surrounding academic integrity, it is the responsibility of all teachers to advise students on what constitutes malpractice in their subject area. Additional support will be provided through Extended Essay sessions and by the IB coordinator.

Students should take note of the following extract from the IBO's *Academic Integrity*<sup>1</sup> publication:

"The **candidate** is ultimately responsible for ensuring that all work submitted for assessment is authentic, with the work or ideas of others fully and correctly acknowledged. Candidates are expected to comply with all internal school deadlines: this is for their own benefit and may allow time for revising work that is of doubtful authorship before the submission of the final version."

Students must acknowledge all ideas and works of other persons. This includes:

- Rendition of another person's words presented in a new style and integrated grammatically in the writing.
- All internet sources, email messages, website, blogs, chats and forums.
- Electronic media.
- Sources of all photographs, maps, illustrations, computer programs, data, graphs, audio-visual materials.
- Verbatim (word-for-word) quotes.
- Works of art including music, film, dance, theatre arts and visual arts.

QASMT uses the APA (American Psychological Association) style of referencing. Students are encouraged to use Microsoft Word's referencing tool (which includes the APA style) to achieve consistency and accuracy in referencing. Teachers should be fully aware of the APA referencing conventions and actively use it when supplying materials to students. Support materials can be found in the Library community on Blackboard as well as at <a href="http://www.plagiarism.org/index.html">http://www.plagiarism.org/index.html</a> and <a href="http://www.plagiarism.org/index.html">http://www.plagiarism.org/index.html</a>

Students are ultimately responsible for ensuring their submitted work is authentic but teachers play a vital role in assisting with early detection of plagiarism. If a teacher suspects that a student's

<sup>&</sup>lt;sup>1</sup> Academic Integrity. (2020). Cardiff, Wales: International Baccalaureate Organization.

draft submission is in breach of the principles of academic integrity, they must draw the student's attention to the risks associated with submitting the piece of assessment. Once a final piece of assessment has been submitted, it cannot be retracted. The teacher is responsible for notifying the IB Coordinator of the breach.

QASMT has subscribed to *Turnitin*, an online plagiarism detection tool to assist students in achieving academic integrity in their submissions. This tool is to assist students in their referencing of assignment work. The IBO randomly check student assessment against the *Turnitin* database. Students at QASMT access *Turnitin* through our Daymap portal.

Students are able to submit their assignment to *Turnitin* a number of times, in order to check for deficiencies in their acknowledgements and to reassess their referencing before their final submission is due. All teachers need to become familiar with the program, and all student assessment should be submitted to *Turnitin*. Appropriate training and assistance is available to all students and staff through the Head of Department – Technology and Arts.

A student found guilty of academic misconduct will not receive their IB Diploma qualification as this is identified as a failing condition by the IBO. For further details, please read the QASMT Academic Integrity Policy available on the school website.

### **Collusion versus Collaboration**

Collaboration includes working in groups to achieve a shared goal and is common in a form of assessment in which all members of the group are expected to participate equally (eg. Group 4 project). Collaboration is about sharing ideas, data and knowledge to enhance understanding. This may be through group discussions about a text, a problem or an experiment. Obtaining assistance about the structure, content etc. from a tutor, but doing the work yourself is to collaborate. Group work will often involve collaboration and may be face-to-face, in discussion boards, blogs and wikis. The protocols of acknowledging sources still apply.

Collusion is the deliberate misrepresentation of another's work as your own with the intention to mislead. Collusion would include, but is not limited to:

- Using the same data in exactly the same way and submitting all or part of an IA for two or more students.
- Having a tutor write your work.
- Handing on an assignment to another person and that person copying your work (whether you
  are aware of this intention or not).

Permissible collaboration includes the following:

- Discussion with other students regarding issues raised by an assessment item.
- Discussion with other students regarding the means by which to address the issues raised by an assessment item.
- Collaborate in the location of, and sharing, sources of information relevant to the item of assessment.



## **IB Diploma Programme Core**

Diploma candidates must successfully complete all three core requirements:

- Creativity, Activity and Service (CAS)
- Extended Essay (EE)
- Theory of Knowledge (TOK)

While CAS achievement is monitored a grade is not awarded. Candidates are deemed 'Satisfactory' or 'Unsatisfactory' for the CAS component of their course.

For TOK and EE the highest grade that can be awarded is an 'A'. The award of the 3 possible bonus points is determined according to the *IB Diploma Bonus Points Matrix*.

## Creativity, Activity and Service

Within the Diploma Programme, CAS provides the main opportunity to develop many of the attributes described in the IB Learner Profile. For this reason, the aims of CAS have been written in a form that highlights their connections with the IB Learner Profile. The three strands of CAS which are often interwoven with particular activities are characterised as follows:

- Creativity: arts or other experiences that involve creative thinking,
- Activity: physical activity contributing to a healthy lifestyle.
- Service: all unpaid voluntary exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected.

#### Aims

The CAS programme aims to develop students who are:

- reflective thinkers—they understand their own strengths and limitations, identify goals and devise strategies for personal growth
- willing to accept new challenges and new roles
- aware of themselves as members of communities with responsibilities towards each other and the environment
- active participants in sustained, collaborative projects
- balanced they enjoy and find significance in a range of activities involving intellectual, physical, creative and emotional experiences.

#### Core Creativity, Action and Service - IBO Assessment Requirements

	Assessment
	CAS Requirements
Creativity, Activity and Service	<ul> <li>All eight outcomes addressed</li> <li>Quality reflections on activities (written, audio or visual) are required and must be accompanied by evidence and a supervisor's report.</li> <li>Minimum of 9 activities over 18 months with a balance between creativity, action and service. While hours are not "counted" it is expected that students will spend approximately 3-4 hours per school weeks (equates to approximately 150 hours over 18 months)</li> <li>Students will participate in at least three interviews with CAS advisor or CAS Coordinator over 18 months.</li> <li>Minimum of one project which must cover 2 areas of CAS, be of significant duration and be collaborative.</li> </ul>

## **Extended Essay**

The Extended Essay is an in-depth focused topic chosen from the list of approved Diploma Programme subjects (normally one of the student's six chosen subject for the IB Diploma). It provides students with an opportunity to engage in personal research in a topic of their own choice, under the guidance of a supervisor (a teacher in the Academy usually). This leads to a major piece of formally presented, structured writing, in which ideas and finds are communicated in a reasoned and coherent manner, appropriate to the subject chose. Students begin the research process during Year 11 and submit in the second year of IB study.

#### Aims

The aims of the extended essay are to provide students with the opportunity to:

- pursue independent research on a focused topic
- develop research and communication skills
- develop the skills of creative and critical thinking
- engage in a systematic process of research appropriate to the subject
- experience the excitement of intellectual discovery.

In working on the extended essay, students are expected to:

- 1. plan and pursue a research project with intellectual initiative and insight
- 2. formulate a precise research question
- 3. gather and interpret material from sources appropriate to the research question
- 4. structure a reasoned argument in response to the research question on the basis of the material gathered
- 5. present their extended essay in a format appropriate to the subject, acknowledging sources in one of the established academic ways
- 6. use the terminology and language appropriate to the subject with skill and understanding
- 7. apply analytical and evaluative skills appropriate to the subject, with an understanding of the implications and the context of their research.

#### Core Extended Essay - IBO Assessment Requirements

	Assessment	Weight
	<b>Essay</b> The 4000-word essay is marked out of 34 and is graded A-E. The essay is marked according to the criteria set by the IBO.	N/A
Extended Essay	<b><u>Reflections on planning and progress form</u></b> Students will have three reflection sessions with their supervisor, one early in the process, an interim meeting and then a final vive voce. The purpose of these sessions is to clarify the direction of essay and reflect on what has been learned. After each reflection session candidates must record the reflections and the supervisor must sign and date the assigned form. This form will be submitted together with the completed EE for assessment under Criterion E.	N/A

## Theory of Knowledge

Theory of Knowledge is central to the educational philosophy of the IB Diploma Programme and is designed to help students apply knowledge in and across all subjects, providing coherent thinking. It is composed almost entirely of question, essentially "How do we know?", through a thoughtful and purposeful inquiry into different ways of knowing and different kinds of knowledge.

#### Aims

The aims of the TOK course are to:

- develop a fascination with the richness of knowledge as a human endeavour, and an understanding of the empowerment that follows from reflecting upon it
- develop an awareness of how knowledge is constructed, critically examined, evaluated and renewed, by communities and individuals
- encourage students to reflect on their experiences as learners, in everyday life and in the Diploma Programme, and to make connections between academic disciplines and between thoughts, feelings and actions
- encourage an interest in the diversity of ways of thinking and ways of living of individuals and communities, and an awareness of personal and ideological assumptions, including participants' own
- encourage consideration of the responsibilities originating from the relationship between knowledge, the community and the individual as citizen of the world.

Having followed the TOK course, students should be able to:

- 1. analyse critically knowledge claims, their underlying assumptions and their implications
- generate questions, explanations, conjectures, hypotheses, alternative ideas and possible solutions in response to knowledge issues concerning areas of knowledge, ways of knowing and students' own experience as learners
- 3. demonstrate an understanding of different perspectives on knowledge issues
- 4. draw links and make effective comparisons between different approaches to knowledge issues that derive from areas of knowledge, ways of knowing, theoretical positions and cultural values
- 5. demonstrate an ability to give a personal, self-aware response to a knowledge issue
- 6. formulate and communicate ideas clearly with due regard for accuracy and academic honesty.

#### Core Theory of Knowledge - IBO Assessment Requirements

	Assessment	Weight
ток	Internal Assessment (externally moderated)	
	Theory of knowledge exhibition (10 marks)	33%
	<ul> <li>For this component, students are required to create an exhibition that explores how TOK manifests in the world around us.</li> </ul>	
	External Assessment	
	TOK essay on a prescribed title (10 marks)	
	<ul> <li>For this component, students are required to write an essay in response to one of the six prescribed titles that are issued by the IB for each examination session.</li> </ul>	67%

# GROUP 1 – Studies in Language and Literature

## 1.1 English A Language and Literature (SL/HL)

In English A Language and Literature, students read, interpret and analyse a wide range of literary and non-literary texts from a range of historical, cultural and linguistic contexts. The nature of language and the ways in which it shapes, and is influenced by identity and culture, is explored and examined over the course of the two year program. In addition, students develop knowledge and understanding of literary theory, sociolinguistics, media institutional practices and critical discourse analysis.

Three Areas of Exploration formulate the program:

- Readers, Writers and Texts,
- Time and Space
- Intertextuality: connecting texts.

Students examine the nature of language and literature; and investigate how and why texts are constructed. The significance of cultural context in which the production and reception of texts is explored. Intertextual relationships are examined in relation to various topics, thematic concerns, generic conventions, modes of literary traditions. Critical responses are developed based an understanding of the complex relationships among texts.

The study of English A Language and Literature is also instrumental in developing an awareness and understanding of the self and how it relates to others. Through the study of texts written originally in the language studied and in translation, students gain an understanding of the ways in which different languages and literatures represent the world, and how these can reflect and create diverse identities. Students become aware that representations of the world vary across cultures, and are encouraged to consider the reasons why, attaining a better understanding of the different ways in which people experience and represent the world.

#### Aims

The aims of all subjects in studies in language and literature are to enable students to:

- engage with a range of texts, in a variety of media and forms, from different periods, styles, and cultures
- develop skills in listening, speaking, reading, writing, viewing, presenting and performing
- develop skills in interpretation, analysis and evaluation
- develop sensitivity to the formal and aesthetic qualities of texts and an appreciation of how they contribute to diverse responses and open up multiple meanings
- develop an understanding of relationships between texts and a variety of perspectives, cultural contexts, and local and global issues and an appreciation of how they contribute to diverse responses and open up multiple meanings
- develop an understanding of the relationships between studies in language and literature and other disciplines
- communicate and collaborate in a confident and creative way
- foster a lifelong interest in and enjoyment of language and literature.

#### **Syllabus Outline**

SL students are required to study four literary works and a number of non-literary texts that is equivalent in teaching and learning time, whereas HL students are required to study six literary works and a number of non-literary texts that is equivalent in teaching and learning time.

The Paper 1 and 2 exams for both SL and HL have a similar format with some additional requirements for HL students. As part of their coursework, HL students will also submit an essay that requires students to explore a line of inquiry in relation to a studied non-literary text or texts, or a literary text or work. The outcome of this exploration is a 1200-1500 word essay in which HL students are expected to demonstrate a deeper understanding of the nature of linguistic or literary study.

The learner portfolio is also a central element of the language A: language and literature course, and is mandatory for all students. It is an individual collection of student work done throughout the two years of the course. The work carried out for the learner portfolio forms the basis of preparation for the assessment, although the portfolio itself will not be directly assessed or moderated by the IB. However, it is a fundamental element of the course, providing evidence of the student's work and a reflection of their preparation for the assessment components.

	Assessment	Weight
	Internal Assessment (externally moderated)Individual oral (15 minutes)Supported by an extract from one non-literary text and one from aliterary work, students will offer a prepared response of 10 minutes,followed by 5 minutes of questions by the teacher.	
Standard Level	External Assessment (3 hours) Paper 1: Guided textual analysis (1 hour 15 minutes) The paper consists of two non-literary passages, from two different text types, each accompanied by a question. Students choose one passage and write an analysis of it. Paper 2: Comparative essay (1 hour 45 minutes) The paper consists of four general questions. In response to one question students write a comparative essay based on two works studied in the course.	35% 35%
	Internal Assessment Individual Oral (externally moderated)	
Higher Level	<b>Individual oral</b> (15 minutes) Supported by an extract from both one non-literary text and one from a literary work, students will offer a prepared response of 10 minutes, followed by 5 minutes of questions by the teacher	20%
	External Assessment (4 hours) Written Essay Students submit an essay on one non-literary text or a collection of non-literary texts by one same author, or a literary text or work	20%
	studied during the course. The essay must be 1200-1500 words in length. <b>Paper 1: Guided textual analysis</b> (2 hours 15 minutes) The paper consists of two non-literary passages, from two different text types, each accompanied by a question. Students write an	35%
	Analysis of each of the passages. Paper 2: Comparative essay (1 hour 45 minutes) The paper consists of four general questions. In response to one question students write a comparative essay based on two works studied in the course.	25%

#### Group 1 Language and Literature - IBO Assessment Requirements

## 1.2 Language A Literature (SL)- School Supported Self-Taught - SSST (Mother Tongue Language)

Information about the School Supported Self-Taught - SSST (Mother Tongue Language) program for Language A Literature SL has previously been supplied to parents and students. Participation in this course is by approval only, any queries should be directed to the IB Coordinator.

# Group 2 – Language Acquisition

# 2.1 Language ab initio – French, German, Japanese and Spanish (SL)

Language ab initio courses are language learning courses for beginners, designed for students who have limited or no previous experience of learning the target language. The main focus of the courses is on the acquisition of language required for purposes and situations usual in everyday social interaction. Language ab initio courses are only available at Standard Level.

Language ab initio courses aim to develop a variety of linguistic skills and a basic awareness of the target culture(s) through the study of a core syllabus and language-specific syllabuses.

#### Aims

- 1. Develop international-mindedness through the study of languages, cultures, and ideas and issues of global significance.
- 2. Enable students to communicate in the language they have studied in a range of contexts and for a variety of purposes.
- 3. Encourage, through the study of texts and through social interaction, an awareness and appreciation of a variety of perspectives of people from diverse cultures.
- 4. Develop students' understanding of the relationship between the languages and cultures with which they are familiar.
- 5. Develop students' awareness of the importance of language in relation to other areas of knowledge.
- 6. Provide students, through language learning and the process of inquiry, with opportunities for intellectual engagement and the development of critical- and creative-thinking skills.
- 7. Provide students with a basis for further study, work and leisure through the use of an additional language.
- 8. Foster curiosity, creativity and a lifelong enjoyment of language learning.

At the end of the Language ab initio course candidates will be expected to demonstrate ability to:

- 1. Communicate clearly and effectively in a range of contexts and for a variety of purposes.
- 2. Understand and use language appropriate to a range of interpersonal and/or intercultural contexts and audiences.
- 3. Understand and use language to express and respond to a range of ideas with fluency and accuracy.
- 4. Identify, organize and present ideas on a range of topics.
- 5. Understand, analyse and reflect upon a range of written, audio, visual and audio-visual texts.

Prescribed topics:

Identities	Experiences	Human Ingenuity	Social organization	Sharing the planet
<ul> <li>Personal attributes</li> <li>Personal relationships</li> <li>Eating and drinking</li> <li>Physical wellbeing</li> </ul>	<ul> <li>Daily routine</li> <li>Leisure</li> <li>Holidays</li> <li>Festivals and celebrations</li> </ul>	<ul> <li>Transport</li> <li>Entertainment</li> <li>Media</li> <li>Technology</li> </ul>	<ul> <li>Neighbourhood</li> <li>Education</li> <li>The workplace</li> <li>Social issues</li> </ul>	<ul> <li>Climate</li> <li>Physical geography</li> <li>The environment</li> <li>Global issues</li> </ul>

### Syllabus Outline

Because a structured learning environment is crucial for the success of beginning language learners, the language ab initio syllabus prescribes four topics for each of the five prescribed themes. Thus, in total there are 20 topics that must be addressed in the language ab initio course.

### Group 2 Language ab initio - IBO Assessment Requirements

	Assessment	Weight
Standard Level	Internal Assessment (externally moderated)	
	Individual Oral (7–10 minutes)	25 %
	External Assessment	
	Paper 1 – Productive skills—writing (1 hour)	25%
	Paper 2 – Receptive skills—separate sections for listening and reading	
	Listening comprehension (45 minutes)	25 %
	Reading comprehension (1 hour)	25 %

# Group 3 – Individuals & Societies

The aims of all subjects in group 3, individuals and societies are to:

- 1. encourage the systematic and critical study of: human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- 2. develop in the student the capacity to identify, to analyse critically and to evaluate theories, concepts and arguments about the nature and activities of the individual and society
- 3. enable the student to collect, describe and analyse data used in studies of society, to test hypotheses, and to interpret complex data and source material
- 4. promote the appreciation of the way in which learning is relevant both to the culture in which the student lives, and the culture of other societies
- 5. develop an awareness in the student that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- 6. enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

## 3.1 Business Management (HL)

Business Management is a rigorous, challenging and dynamic discipline in the individuals and societies subject group. The role of businesses, as distinct from other organisations, is to produce and sell goods and services that meet human needs and wants by organising resources. Profit-making, risk-taking and operating in a competitive environment characterise most business organisations.

The Diploma Programme Business Management course is designed to develop students' knowledge and understanding of business management theories, as well as their ability to apply a range of tools and techniques. Students learn to analyse, discuss and evaluate business activities at local, national and international levels. The course covers a range of organizations from all sectors, as well as the socio-cultural and economic contexts in which those organizations operate.

Emphasis is placed on strategic decision-making and the operational business functions of human resource management, finance and accounts, marketing and operations management. Links between the topics are central to the course, as this integration promotes a holistic overview of business management. Through the exploration of six concepts underpinning the subject (change, culture, ethics, globalization, innovation and strategy), the Business Management course allows students to develop their understanding of interdisciplinary concepts from a Business Management perspective.

#### Aims

The aims of the Business Management course at HL are to:

- encourage a holistic view of the world of business
- empower students to think critically and strategically about individual and organizational behaviour
- promote the importance of exploring business issues from different cultural perspectives
- enable the student to appreciate the nature and significance of change in a local, regional and global context
- promote awareness of the importance of environmental, social and ethical factors in the actions of individuals and organizations
- develop an understanding of the importance of innovation in a business environment.

Having followed the Business Management course at HL students will be expected to:

- demonstrate knowledge and understanding of the business management tools, techniques and theories; the six concepts (change, culture, ethics, globalization, innovation, strategy); real-world business problems, issues and decisions.
- analyse real-world business situations and decisions by explaining the issues at stake, selecting and interpreting data, and applying appropriate tools, techniques, theories and concepts
- synthesise and evaluate business strategies and practices through critical thinking and business decisions to formulate recommendations
- demonstrate a variety of appropriate skills to produce well-structured written material using business terminology; select and use quantitative and qualitative business tools, techniques and methods; and use selected business material, from a range of primary and secondary sources.

#### Syllabus Outline

The curriculum model for Diploma Programme Business Management has a core curriculum for HL and SL consisting of five topics with common content and learning outcomes. In addition to the core, HL students are expected to complete extension areas of study, in all five topics, adding both depth and breadth to the course.

#### HL core:

- Topic 1: Business organisation and environment
- Topic 2: Human resource management
- Topic 3: Finance and accounts
- Topic 4: Marketing
- Topic 5: Operations management

#### Group 3 Business Management - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated)	
	Research Project [2000 words]	25 %
Higher Level	External Assessment	
	Paper 1 – Case Study Examination [2 ¼ hours]	35 %
	Paper 2 – Core Examination [2 ¼ hours]	40 %

## 3.2 Economics (HL)

Economics, a dynamic social science, is essentially about dealing with scarcity, resource allocation and the methods and processes by which choices are made in the satisfaction of human wants. As a social science, economics uses scientific methodologies that include quantitative and qualitative elements.

The IB Diploma Programme Economics course emphasizes the economic theories of microeconomics, which deal with economic variables affecting individuals, firms and markets, and the economic theories of macroeconomics, which deal with economic variables affecting countries, governments and societies. These economic theories are to be applied to real-world issues. Prominent among these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability.

The ethical dimensions involved in the application of economic theories and policies permeate throughout the economics course as students are required to consider and reflect on human endgoals and values. The economics course encourages students to develop international perspectives, fosters a concern for global issues, and raises students' awareness of their own responsibilities at a local, national and international level. The course also seeks to develop values and attitudes that will enable students to achieve a degree of personal commitment in trying to resolve these issues, appreciating our shared responsibility as citizens of an increasingly interdependent world.

#### Aims

The aims of the Economics course at HL are to:

- develop a critical understanding of a range of economic theories, models, ideas and tools in the areas of microeconomics, macroeconomics and the global economy
- apply economic theories, models, ideas and tools and analyse economic data to understand and engage with real-world economic issues and problems facing individuals and societies
- develop a conceptual understanding of individuals' and societies' economic choices, interactions, challenges and consequences of economic decision-making.

#### Syllabus Outline

The curriculum model for Diploma Programme Economics has a core curriculum for HL consisting of four topics with common content and learning outcomes

- Topic 1: Introduction to Economics
- Topic 2: Microeconomics
- Topic 3: Macroeconomics
- Topic 4: The Global Economy

#### Group 3 Economics - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated)	
	Commentary portfolio [3 commentaries, 800 words each]	20%
lisherlevel	External Assessment	
Higner Level	Paper 1 – Extended Response Paper [1 ¼ hours]	20%
	Paper 2 – Data Response Paper [1 ¾ hours]	30%
	Paper 3 – Policy Paper [1 ¾ hours]	30%

## 3.3 Information Technology in a Global Society (HL)

The IB Diploma Programme Information Technology in a Global Society (ITGS) course is the study and evaluation of the impacts of information technology (IT) on individuals and society. It explores the advantages and disadvantages of the access and use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts. Although ITGS shares methods of critical investigation and analysis with other social sciences, it also considers social and ethical considerations that are common to other subjects in Group 3. Students come into contact with IT on a daily basis because it is so pervasive in the world in which we live. This increasingly widespread use of IT inevitably raises important questions with regard to the social and ethical considerations that shape our society today. ITGS offers an opportunity for a systematic study of these considerations, whose range is such that they fall outside the scope of any other single discipline.

#### Aims

The aims of the Information technology in a global society (ITGS) course at HL are to:

- enable the student to evaluate social and ethical considerations arising from the widespread use of IT by individuals, families, communities, organizations and societies at the local and global level
- develop the student's understanding of the capabilities of current and emerging IT systems and to evaluate their impact on a range of stakeholders
- enable students to apply their knowledge of existing IT systems to various scenarios and to make informed judgments about the effects of IT developments on them
- encourage students to use their knowledge of IT systems and practical IT skills to justify IT solutions for a specified client or end-user.

#### Syllabus Outline

The ITGS course consists of three compulsory interconnected strands that reflect the integrated nature of the course.

#### Strand 1: Social and ethical significance

Social and ethical considerations linked to specified IT developments. Students must study the following twelve issues.

- 1.1 Reliability and integrity
- 1.2 Security
- 1.3 Privacy and anonymity
- 1.4 Intellectual property
- 1.5 Authenticity
- 1.6 The digital divide and equality of access
- 1.7 Surveillance
- 1.8 Globalization and cultural diversity
- 1.9 Policies
- 1.10 Standards and protocols
- 1.11 People and machines
- 1.12 Digital citizenship

#### Strand 2: Application to specified scenarios

Scenarios based on real-life situations must be used when addressing specified IT developments. Students study six themes that include Business and employment, Education and training, Environment, Health, Home and Leisure, Politics and government.

#### Strand 3: IT systems

The terminology, concepts and tools relating to specified IT developments. Students must study the following nine topics.

- 3.1 Hardware
- 3.2 Software
- 3.3 Networks
- 3.4 Internet
- 3.5 Personal and public communications
- 3.6 Multimedia/digital media
- 3.7 Databases
- 3.8 Spreadsheets, modelling and simulations
- 3.9 Introduction to project management
- 3.10 IT systems in organizations
- 3.11 Robotics, artificial intelligence and expert systems
- 3.12 Information systems specific to the annually issued case study

#### The project (practical application of IT skills)

The application of skills and knowledge to develop an original IT product for a specified client.

#### Group 3 ITGS - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated)	
	Project - The development of an original IT product for a specified client.	20 %
Higher Level	External Assessment	35 %
	Paper 1 – Structured questions [2 1/4 hours]	20 %
	Paper 2 – Response to an unseen article [1 ¼ hours]	25 %
	Paper 3 – Questions on pre-seen case study [1 ¼ hours]	20 70

## 3.4 Psychology (HL)

Psychology is the systematic study of behaviour and mental processes. Psychology has its roots in both the natural and social sciences and a variety of research designs are utilized. Overall Psychology provides a unique approach to understanding modern society.

IB Psychology examines the interaction of biological, cognitive and sociocultural influences on human behaviour, thereby adopting an integrative approach. Understanding how psychological knowledge is generated, developed and applied enables students to achieve a greater understanding of themselves and appreciate the diversity of human behaviour. The ethical concerns raised by the methodology and application of psychological research are key considerations in IB psychology.

IB Psychology takes a holistic approach that fosters intercultural understanding and respect. In the core of the IB Psychology course, the biological approach demonstrates what all humans

share, whereas the cognitive and sociocultural approaches reveal the immense diversity of influences that produce human behaviour and mental processes. Cultural diversity is explored and students are encouraged to develop empathy for the feelings, needs and lives of others within and outside their own culture, therefore contributing to an international understanding.

#### Aims

The aims of the Psychology course at HL are to:

- develop an awareness of how psychological research can be applied for the benefit of human beings
- ensure that ethical practices are upheld in psychological inquiry
- develop an understanding of the biological, cognitive and sociocultural influences on human behaviour
- develop an understanding of alternative explanations of behaviour
- understand and use diverse methods of psychological inquiry.

#### Syllabus Outline

The Psychology syllabus at SL and HL requires the study of three perspectives or levels of analysis:

- The biological level of analysis
- The cognitive level of analysis
- The sociocultural level of analysis

Students also study two options at HL. The options have been chosen to provide continuity with the previous syllabus and to reflect developing fields in psychology. The options currently studied at QASMT are:

- Abnormal psychology
- Health psychology

The study of the core (approaches) provides a foundation and a broad overview of psychology, whereas the options allow students the opportunity to study a specialized area of psychology in depth. In all cases students will be required to utilize research to support their understanding and critical thinking.

Students at HL are required to plan and undertake a simple experimental study for their Internal Assessment and to produce a report of their study. A simple experimental study involves the manipulation, of a single independent variable and the measurement of the effect of this independent variable on a dependent variable, while controlling other variables. It is analysed through descriptive and inferential statistics. Students studying Psychology at HL will also study qualitative research methodologies and be expected to apply this understanding to a variety of cases.

## Group 3 Psychology - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated) Experimental study	20 %
Higher Level	External AssessmentPaper 1 – Core Examination [2 hours]Paper 2 – Options [2 hours]Paper 3 – Approaches to research based on researchscenario [1 hour]	40 % 20 % 20 %

## Group 4 – Sciences

# 4.1 Experimental Sciences - Biology, Chemistry, Physics, Sport, Exercise and Health Science

#### Aims

Through studying any of these subjects, students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes these subjects.

The aims enable students, through the overarching theme of the Nature of science, to:

- 1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- 2. acquire a body of knowledge, methods and techniques that characterize science and technology
- 3. apply and use a body of knowledge, methods and techniques that characterize science and technology
- 4. develop an ability to analyse, evaluate and synthesize scientific information
- 5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- 6. develop experimental and investigative scientific skills including the use of current technologies
- 7. develop and apply 21st century communication skills in the study of science
- 8. become critically aware, as global citizens, of the ethical implications of using science and technology
- 9. develop an appreciation of the possibilities and limitations of science and technology
- 10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

The assessment objectives for these subjects reflect those parts of the aims that will be formally assessed either internally or externally. These assessments will centre upon the nature of science. It is the intention of all the Diploma Programme experimental science courses that students should achieve the following objectives.

- 1. Demonstrate knowledge and understanding of:
  - a. facts, concepts and terminology
  - b. methodologies and techniques
  - c. communicating scientific information.
- 2. Apply:
  - a. facts, concepts and terminology
  - b. methodologies and techniques
  - c. methods of communicating scientific information.



- 3. Formulate, analyse and evaluate:
  - a. hypotheses, research questions and predictions
  - b. methodologies and techniques
  - c. primary and secondary data
  - d. scientific explanations
- 4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Candidates complete a Group 4 project which requires them to carry out an interdisciplinary, practical based research investigation within a specified theme. This work forms part of the IB requirement and is submitted in Year 12.

## 4.1.1 Biology (SL/HL)

Biology is an experimental science that combines academic study with the acquisition of practical and investigational skills. Biologists attempt to understand the living world at all levels using many different approaches and techniques. At one end of the scale is the cell, its molecular construction and complex metabolic reactions. At the other end of the scale biologists investigate the interactions that make whole ecosystems function. Apart from being a subject worthy of study in its own right, Biology can be used as a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science and serves as useful preparation for employment.

#### Syllabus Outline

#### Core:

- Topic 1: Cell biology
- Topic 2: Molecular biology
- Topic 3: Genetics
- Topic 4: Ecology
- Topic 5: Evolution and biodiversity
- Topic 6: Human physiology

#### Option (1 only studied)

- A. Neurobiology and behaviour
- B. Biotechnology and bioinformatics
- C. Ecology and conservation
- D. Human physiology

#### Practical scheme of work (PSOW)

- Practical activities
- Individual investigation (Internal assessment IA)
- Group 4 project



#### Additional HL:

Topic 7: Nucleic acids Topic 8: Metabolism, cell respiration and photosynthesis Topic 9: Plant biology Topic 10: Genetics and evolution Topic 11: Animal physiology

#### Group 4 Biology - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated) One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Standard Level	External Assessment	
	Paper 1 – Multiple Choice Examination [¾ hour]	20 %
	Paper 2 – Short and Extended Response [1 ¼ hours]	40 %
	Paper 3 – Options and Experimental Skills Examination [1 hour]	20 %
	Internal Assessment (externally moderated) One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Higher Level	External Assessment	
	Paper 1 – Multiple Choice Examination [1 hour]	20 %
	Paper 2 – Short and Extended Response [2 ¼ hours]	36 %
	Paper 3 – Options and Experimental Skills Examination [1 ¼ hours]	24 %

## 4.1.2 Chemistry (SL/HL)

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is called the central science as chemical principles underpin both the physical environment in which we live and all biological systems. Apart from being a subject worthy of study in its own right, Chemistry can be used as a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science and serves as useful preparation for employment.

#### Syllabus Outline

#### Core:

- Topic 1: Stoichiometric relationships
- Topic 2: Atomic structure
- Topic 3: Periodicity
- Topic 4: Chemical bonding and structure
- Topic 5: Energetics/thermochemistry
- Topic 6: Chemical kinetics
- Topic 7: Equilibrium
- Topic 8: Acids and bases
- Topic 9: Redox processes
- Topic 10: Organic chemistry
- Topic 11: Measurement and data processing

#### **Option (1 only studied)**

- A. Materials
- B. Biochemistry
- C. Energy
- D. Medicinal chemistry

#### Additional HL:

Topic 12: Atomic structure Topic 13: The periodic table – the transition metals Topic 14: Chemical bonding and structure

- Topic 15: Energetics/thermochemistry
- Topic 16: Chemical kinetics
- Topic17: Equilibrium
- Topic 17. Equilibrium Topic 19: Acido and I
- Topic 18: Acids and bases Topic 19: Redox processes
- Topic 19. Redox processes
- Topic 20: Organic chemistry
- Topic 21: Measurement and analysis

#### Practical scheme of work (PSOW)

- Practical activities
- Individual investigation (Internal assessment IA)
- Group 4 project

#### Group 4 Chemistry - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated) One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Standard Level	External Assessment	
	Paper 1 – Multiple Choice Examination [¾ hour]	20 %
	Paper 2 – Short and Extended Response [1 ¼ hours]	40 %
	Paper 3 – Options and Experimental Skills Examination [1 hour]	20 %
	Internal Assessment (externally moderated)	
18ak and anal	One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Higher Level	External Assessment	
	Paper 1 – Multiple Choice Examination [1 hour]	20 %
	Paper 2 – Short and Extended Response [2 ¼ hours]	36 %
	Paper 3 – Options and Experimental Skills Examination [1 ¼ hours]	24 %

## 4.1.3 Physics (SL/HL)

Physics is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is called the most fundamental of the experimental sciences as it seeks to explain the universe itself, from the very smallest particles – currently accepted as quarks (perhaps 10<sup>-17</sup> m in size), which may be truly fundamental – to the vast distances between galaxies like the Andromeda galaxy (10<sup>24</sup> m). Students with an aptitude in Mathematics or simply a desire to do fundamental scientific research in fields like Astronomy, Nanotechnology, Rocketry, or Photonics (to name a few), should consider studying this subject, it can also be used as a prerequisite for many other courses in higher education, such as science and engineering.

#### Syllabus Outline

#### Core:

- Topic 1: Measurements and uncertainties
- **Topic 2: Mechanics**
- **Topic 3: Thermal physics**
- Topic 4: Waves
- Topic 5: Electricity and magnetism
- Topic 6: Circular motion and gravitation
- Topic 7: Atomic, nuclear and particle physics
- Topic 8: Energy production

#### Additional HL:

Topic 9: Wave phenomena Topic 10: Fields Topic 11: Electromagnetic induction Topic 12: Quantum and nuclear physics

#### **Option (1 only studied)**

- A. Relativity
- B. Engineering physics
- C. Imaging
- D. Astrophysics

#### Practical scheme of work (PSOW)

- Practical activities
- Individual investigation (Internal assessment IA)
- Group 4 project

#### Group 4 Physics - IBO Assessment Requirements



	Assessment	Weight
	Internal Assessment (externally moderated)	
~	One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Standard Level	External Assessment	
	Paper 1 – Multiple Choice Examination [¾ hour]	20 %
	Paper 2 – Short and Extended Response [1 ¼ hours]	40 %
	Paper 3 – Options and Experimental Skills Examination [1 hour]	20 %
Lisber Lovel	Internal Assessment (externally moderated) One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Higher Level	External Assessment	
	Paper 1 – Multiple Choice Examination [1 hour]	20 %
	Paper 2 – Short and Extended Response [2 ¼ hours]	36 %
	Paper 3 – Options and Experimental Skills Examination [1 1/4 hours]	24 %

## 4.1.4 Sport, Exercise and Health Science (HL)

Sports, Exercise and Health Science (SEHS) is an experimental science that combines academic study with the acquisition of practical and investigative skills. It is an applied science course within Group 4, with aspects of biological and physical science being studied in the specific context of sports, exercise and health. Moreover, the subject matter goes beyond the traditional science subjects to offer a deeper understanding of the issues related to sports, exercise and health in the 21<sup>st</sup> century.

The course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology and nutrition, which are studied in the context of sports, exercise and health. Students will cover a range of core and option topics, and carry out practical (experimental) investigations in both laboratory and field settings. The Diploma Programme SEHS course allows students to develop practical skills and techniques, and to increase facility in the use of mathematics, which is the language of science. It also allows students to develop interpersonal skills and digital technology skills, which are essential in 21<sup>st</sup> century scientific endeavor.

#### Syllabus Outline

#### Core:

Topic 1: Anatomy Topic 2: Exercise physiology Topic 3: Energy systems Topic 4: Movement analysis Topic 5: Skill in sports Topic 6 Measurement and evaluation of human performance

#### Additional HL:

Topic 7: Further anatomy Topic 8: The endocrine system Topic 9: Fatigue Topic 10: Friction and drag Topic 11: Skill acquisition and analysis Topic 12: Genetics and athletic performance Topic 13: Exercise and immunity

#### Options (Students are required to study two options)

- A. Optimizing physiological performance
- B. Psychology of sports
- C. Physical activity and health
- D. Nutrition for sports, exercise and health

#### Practical scheme of work (PSOW)

- Practical activities
- Individual investigation (Internal assessment IA)
- Group 4 project

#### Group 4 SHES - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated) One practical scientific investigation of your choice taking about 10 hours. The individual investigation should cover a topic that is commensurate with the level of the course of study.	20 %
Higher Level	External Assessment	
	Paper 1 – Multiple Choice Examination [1 hour]	20 %
	Paper 2 – Short and Extended Response [2 ¼ hours]	35 %
	Paper 3 – Several short-answer and extended-response questions (all compulsory) in each of the two options studied [1 ¼ hours]	25 %

## 4.2 Computer Science (HL)

Computer science requires an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate. The Diploma

Programme computer science course is engaging, accessible, inspiring and rigorous. It has the following characteristics:

- draws on a wide spectrum of knowledge
- enables and empowers innovation, exploration and the acquisition of further knowledge
- interacts with and influences cultures, society and how individuals and societies behave
- raises ethical issues
- is underpinned by computational thinking.



#### Aims

Diploma Programme computer science students should become aware of how computer scientists work and communicate with each other and with other stakeholders in the successful development and implementation of IT solutions. While the methodology used to solve problems in computer science may take a wide variety of forms, the Group 4 Computer Science course emphasizes the need for both a theoretical and practical approach.

It is in this context that the Diploma Programme computer science course should aim to:

- 1. provide opportunities for study and creativity within a global context that will stimulate and challenge students developing the skills necessary for independent and lifelong learning
- 2. provide a body of knowledge, methods and techniques that characterize computer science
- 3. enable students to apply and use a body of knowledge, methods and techniques that characterize computer science
- 4. demonstrate initiative in applying thinking skills critically to identify and resolve complex problems
- 5. engender an awareness of the need for, and the value of, effective collaboration and communication in resolving complex problems
- 6. develop logical and critical thinking as well as experimental, investigative and problemsolving skills
- 7. develop and apply the students' information and communication technology skills in the study of computer science to communicate information confidently and effectively
- 8. raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- 9. develop an appreciation of the possibilities and limitations associated with continued developments in IT systems and computer science
- 10. encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

The assessment objectives for all Group 4 subjects reflect those parts of the aims that will be formally assessed either internally or externally. Wherever appropriate, the assessment will draw upon a range of contexts and identify the social, moral and economic effects of science and technology.

It is the intention of the Diploma Programme computer science course that students achieve the following objectives.

- 1. Demonstrate knowledge and understanding of:
  - a. facts, concepts and terminology
  - b. methodologies and techniques
  - c. computer science terminology
  - d. methods of presenting information.
- 2. Apply and use:
  - a. relevant facts and concepts
  - b. relevant design methods and techniques
  - c. terminology to communicate effectively
  - d. appropriate communication methods to present information.
- 3. Construct, analyse, evaluate and formulate:
  - a. success criteria, solution specifications including task outlines, designs and test plans
  - b. appropriate techniques within a specified solution.
- 4. Demonstrate the personal skills of cooperation and perseverance as well as appropriate technical skills for effective problem-solving in developing a specified product.

Candidates complete a Group 4 project which requires them to carry out an interdisciplinary, practical based research investigation within a specified theme.

#### Syllabus Outline

#### Core:

Topic 1: System fundamentals Topic 2: Computer organization Topic 3: Networks Topic 4: Computational thinking, problemsolving and programming

Option: Object-oriented programming (OOP)

#### Internal assessment

Requirements

• Solution - Practical application of skills through the development of a product and associated documentation

Group 4 Computer Science - IBO Assessment

• Group 4 project

#### Additional HL:

Topic 5: Abstract data structures Topic 6: Resource management Topic 7: Control **Case study** – issued annually by the IB



	Assessment	Weight
Higher Level	Internal Assessment (externally moderated)	
	Solution - Practical application of skills through the development of a product and associated documentation	20 %
	External Assessment	
	Paper 1 – Short Answer and Structured questions [2 ¼ hours]	40 %
	Paper 2 – Option Examination [1 ¼ hours]	20 %
	Paper 3 – Pre-seen case study Examination [1 hour]	20%

# **GROUP 5 – Mathematics**

Mathematics has been described as the study of structure, order and relation that has evolved from the practices of counting, measuring and describing objects. Mathematics provides a unique language to describe, explore and communicate the nature of the world we live in as well as being a constantly building body of knowledge and truth in itself that is distinctive in its certainty. These two aspects of mathematics, a discipline that is studied for its intrinsic pleasure and a means to explore and understand the world we live in, are both separate yet closely linked.



Mathematics is driven by abstract concepts and generalization. This mathematics is drawn out of ideas, and develops through linking these ideas and developing new ones. These mathematical ideas may have no immediate practical application. Doing such mathematics is about digging deeper to increase mathematical knowledge and truth. The new knowledge is presented in the form of theorems that have been built from axioms and logical mathematical arguments and a theorem is only accepted as true when it has been proven. The body of knowledge that makes up mathematics is not fixed; it has grown during human history and is growing at an increasing rate.

The side of mathematics that is based on describing our world and solving practical problems is often carried out in the context of another area of study. Mathematics is used in a diverse range of disciplines as both a language and a tool to explore the universe; alongside this its applications include analysing trends, making predictions, quantifying risk, exploring relationships and interdependence.

The two mathematics courses available to Diploma Programme (DP) students express both the differences that exist in mathematics described above and the connections between them. These two courses might approach mathematics from different perspectives, but they are connected by the same mathematical body of knowledge, ways of thinking and approaches to problems. The differences in the courses may also be related to the types of tools, for instance technology, that are used to solve abstract or practical problems. The next section will describe in more detail the two available courses.

It should be noted that both IB Mathematics courses (at SL and HL) are identified as meeting the prerequisite for Mathematical Methods at The University of Queensland. The Mathematics: analysis and approaches HL subject also meets the prerequisite for Specialist Mathematics.

#### Summary of courses available

Individual students have different needs, aspirations, interests and abilities. For this reason there are two different subjects in mathematics, each available at SL and HL These courses are designed for different types of students: those who wish to study mathematics as a subject in its own right or to pursue their interests in areas related to mathematics, and those who wish to gain understanding and competence in how mathematics relates to the real world and to other subjects. Each course is designed to meet the needs of a particular group of students. Mathematics: analysis and approaches and Mathematics: applications and interpretation are both offered at SL and HL. Therefore, great care should be taken to select the course and level that is most appropriate for an individual student.

In making this selection, individual students should take into account the following factors:

- their own abilities in mathematics and the type of mathematics in which they can be successful
- their own interest in mathematics and those particular areas of the subject that may hold the most interest for them
- their other choices of subjects within the framework of the DP
- their academic plans, in particular the subjects they wish to study in the future
- their choice of career.

#### Aims

The aims of the all the Mathematics subjects in group 5 are to enable students to:

- 1. develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- 2. develop an understanding of the concepts, principles and nature of mathematics
- 3. communicate mathematics clearly, concisely and confidently in a variety of contexts
- 4. develop logical and creative thinking, and patience and persistence in problem solving to instil confidence in using mathematics
- 5. employ and refine their powers of abstraction and generalization
- 6. take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- 7. appreciate how developments in technology and mathematics influence each other
- 8. appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
- 9. appreciate the universality of mathematics and its multicultural, international and historical perspectives
- 10. appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course
- 11. develop the ability to reflect critically upon their own work and the work of others
- 12. independently and collaboratively extend their understanding of mathematics.

Problem solving is central to learning mathematics and involves the acquisition of mathematical skills and concepts in a wide range of situations, including non-routine, open-ended and real-world problems. Having followed a DP mathematics course, students will be expected to demonstrate the following:

- 1. Knowledge and understanding: Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
- 2. Problem solving: Recall, select and use their knowledge of mathematical skills, results and models in both abstract and real-world contexts to solve problems.
- 3. Communication and interpretation: Transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation; use appropriate notation and terminology.
- 4. Technology: Use technology accurately, appropriately and efficiently both to explore new ideas and to solve problems.
- 5. Reasoning: Construct mathematical arguments through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions.
- 6. Inquiry approaches: Investigate unfamiliar situations, both abstract and from the real world, involving organizing and analyzing information, making conjectures, drawing conclusions, and testing their validity.

#### Syllabus Outline

Students are required to study five topics: Number and algebra; Functions; Geometry and trigonometry; Statistics and probability; and Calculus which are assessed through two external examinations at the end of the course if studying at standard level and three if studying at higher level.

The students are also expected to complete a Mathematical Exploration which is a piece of work based on an area of the Mathematics of their choice. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations.

## 5.1 Mathematics Analysis and Approaches (SL/HL)

Mathematics analysis and approaches is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Mathematics: analysis and approaches will be those who enjoy the thrill of mathematical problem solving and generalization.



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 at both SL and HL, and proof by induction at HL.

The course allows the use of technology, as fluency in relevant mathematical software and handheld technology is important regardless of choice of course. However, **Mathematics analysis and approaches has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments.** 

#### Mathematics analysis and approaches: Distinction between SL and HL

Students who choose Mathematics analysis and approaches at SL or HL should be comfortable in the manipulation of algebraic expressions and enjoy the recognition of patterns and understand the mathematical generalization of these patterns. Students who wish to take Mathematics: analysis and approaches at higher level will have strong algebraic skills and the ability to understand simple proof. They will be students who enjoy spending time with problems and get pleasure and satisfaction from solving challenging problems.

# Group 5 Mathematics analysis and approaches - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated)	
	Mathematical Exploration (mathematical investigation and mathematical modelling)	20 %
Standard Level	External Assessment	
	Paper 1 – Non calculator examination [1 ½ hours]	40 %
	Paper 2 – Calculator examination [1 ½ hours]	40 %
	Internal Assessment (externally moderated)	
	Mathematical Exploration (mathematical investigation and mathematical modelling)	20 %
Higher Lovel	External Assessment	
nigher Lever	Paper 1 – Non calculator examination [2 hours]	30 %
	Paper 2 – Calculator examination [2 hours]	30 %
	Paper 3 – Extended response, problem solving and modelling [1 hour]	20 %

# 5.2 Mathematics Applications and Interpretation (SL/HL)

Mathematics applications and interpretation is for students who are interested in developing their mathematics for describing our world and solving practical problems. They will also be interested in harnessing the power of technology alongside exploring mathematical models. Students who take Mathematics: applications and interpretation will be those who enjoy mathematics best when seen in a practical context.

This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics.

The course makes extensive use of technology to allow students to explore and construct mathematical models. Mathematics applications and interpretation will develop mathematical thinking, often in the context of a practical problem and using technology to justify conjectures.

#### Mathematics applications and interpretation: Distinction between SL and HL

Students who choose Mathematics applications and interpretation at SL or HL should enjoy seeing mathematics used in real-world contexts and to solve real-world problems. Students who wish to take Mathematics: applications and interpretation at higher level will have good algebraic skills and experience of solving real-world problems. They will be students who get pleasure and satisfaction when exploring challenging problems and who are comfortable to undertake this exploration using technology.

# Group 5 Mathematics applications and interpretation - IBO Assessment Requirements

	Assessment	Weight
	Internal Assessment (externally moderated)	
	Mathematical Exploration (mathematical investigation and mathematical modelling)	20%
Standard Level	External Assessment	
	Paper 1 – Calculator examination [1 ½ hours]	40 %
	Paper 2 – Calculator examination [1 ½ hours]	40 %
	Internal Assessment (externally moderated)	
	Mathematical Exploration (mathematical investigation and mathematical modelling)	20%
	External Assessment	
	Paper 1 – Calculator examination [2 hours]	30 %
	Paper 2 – Calculator examination [2 hours]	30 %
	Paper 3 – Extended response, problem solving and modelling [1 hour]	20 %

# GROUP 6 – The Arts

## 6.1 Visual Art (HL)

Visual Art entails the practice and theory of art, including understanding the cultural history and the philosophical framework of art-making. The QASMT Visual Art program encourages students to challenge their own creative and cultural expectations and boundaries as they develop analytical skills in problem-solving and divergent thinking. Students explore and compare visual arts from different perspectives and in different contexts, while engaging in, experimenting with and critically reflecting upon a wide range of contemporary practices and media.

Visual Art is founded on creative thinking and studio practice. Students have the opportunity to explore diverse materials, develop new skills with art media and enlist a range of tools and processes for ideation that blend knowledge and stimulus from art, science and technology. They apply their knowledge and skills to realise their own creative ideas. Studio practice establishes key ways of working, including documentation of the creative process and application of formative art and design theories and principles. Assessment is based on both practical and theoretical responses.

The IB Visual Art program caters for students with a strong interest in art who want to develop their artistic potential and apply creative thinking in a wide range of disciplines. Through inquiry, investigation, reflection and creative application, visual arts students develop an appreciation for the expressive and aesthetic diversity in the world around them, becoming critically informed makers and consumers of visual culture. The course is suitable for students who want to prepare for tertiary programs or future pathways in creative industries. In addition, by refining creative communication and collaborative skills, Visual Art offers valuable, lifelong attributes for students who may wish to pursue careers or further studies in areas unconnected to the arts.

#### Aims

The aims of the arts subjects are to enable students to:

- 1. enjoy lifelong engagement with the arts
- 2. become informed, reflective and critical practitoners in the arts
- 3. understand the dynamic and changing nature of the arts
- 4. explore and value the diversity of the arts across time, place and cultures
- 5. express ideas with confidence and competence
- 6. develop perceptual and analytical skills.

In addition, the aims of the visual arts course at HL are to enable students to:

- 7. make artwork that is influenced by personal and cultural contexts
- 8. become informed and critical observers and makers of visual culture and media
- 9. develop skills, techniques and processes in order to communicate concepts and ideas.

#### Group 6 Visual Arts - IBO Assessment Requirements

	For assessment students will be expected to: (in a variety of media selected from the art-making forms table) Combining all they have learned from visual arts in context, visual arts methods and communicating visual arts core syllabus	
	Assessment	Weight
	Internal Assessment (externally moderated)	
	<b>Exhibition:</b> Students submit for assessment a selection of resolved artworks from their exhibition. The selected pieces should show evidence of their technical accomplishment during the visual arts course and an understanding of the use of materials, ideas and practices appropriate to visual communication.	40 %
	8-11 pieces with exhibition text for each. A curatorial rationale (700 words maximum).	
	External Assessment	
Higher Level	<b>Comparative Study:</b> Students analyse and compare different artworks by different artists. This independent critical and contextual investigation explores artworks, objects and artefacts from differing cultural contexts.	
	Compare at least 3 different artworks, by at least 2 different artists, with commentary over 10-15 screens and a reflection on the extent to which their work and practices have been influenced by any of the art/artists examined (3-5 screens).	20 %
	<b>Process portfolio:</b> Students submit carefully selected materials which evidence their experimentation, exploration, manipulation and refinement of a variety of visual arts activities during the two-year course.	40 %
	13-25 screens. The submitted work should be in at least three different art-making forms.	

#### Art-making forms

Throughout the course students are expected to experience working with a variety of different art-making and conceptual forms. HL students should, as a minimum, experience working with at least three art-making forms, selected from a minimum of two columns of the table below. The examples given are for guidance only and are not intended to represent a definitive list.

Two-dimensional forms	Three-dimensional forms	Lens-based, electronic and screen-based forms
<b>Drawing:</b> such as charcoal, pencil, ink	<b>Sculpture:</b> such as ceramics, found objects, wood, assemblage	<b>Time-based and sequential art:</b> animation, graphic novel, storyboard
<b>Painting:</b> such as acrylic, oil, watercolour	<b>Designed objects:</b> such as fashion, architectural, vessels	<b>Lens media:</b> such as still, moving, montage
<b>Printmaking:</b> such as relief, intaglio, planographic, chine colle	<b>Site specific/ephemeral:</b> such as land art, installation, mural	<b>Digital/screen based:</b> such as vector graphics, software generated
<b>Graphics:</b> such as illustration and design	<b>Textiles:</b> such as fibre, weaving, printed fabric	



**Queensland Academy** for Science Mathematics and Technology

### Inspiring Great Minds

## Subject selection

Use this form to prepare for your online subject selection. Make your selection by ticking the relevant [] in each group.

Group 1 – choose 1 subject	Group 2* – choose 1 subject	Group 3 – choose 1 subject	Group 4/6 – choose 2 subjects	Group 5 – choose 1 subject
<ul> <li>English A Language and Literature – Standard Level</li> <li>English A Language and Literature – Higher Level</li> </ul>	<ul> <li>French ab initio – Standard Level</li> <li>German ab initio – Standard Level</li> <li>Japanese ab initio – Standard Level</li> <li>Spanish ab initio – Standard Level</li> <li>Language A Literature – Standard Level (Group 1 subject - School-Supported Self Study in Mother Tongue - by approval only*)</li> </ul>	<ul> <li>Business Management – Higher Level</li> <li>Economics – Higher Level</li> <li>Information Technology in a Global Society – Higher Level</li> <li>Psychology – Higher Level</li> </ul>	<ul> <li>Biology – Standard Level</li> <li>Biology – Higher Level</li> <li>Chemistry – Standard Level</li> <li>Chemistry – Higher Level</li> <li>Computer Science – Higher Level</li> <li>Physics – Standard Level</li> <li>Physics – Higher Level</li> <li>Sport, Exercise and Health Science – Higher Level</li> <li>Visual Art – Higher Level</li> </ul>	<ul> <li>Mathematics Analysis and Approaches – Standard Level</li> <li>Mathematics Analysis and Approaches – Higher Level</li> <li>Mathematics Applications and Interpretation – Standard Level</li> <li>Mathematics Applications and Interpretation – Higher Level</li> </ul>

Because of the increased rigour of HL subjects, students should select these first. Your HL subject selection should reflect those subjects in which you are performing best and your recommendations.

I have chosen <b>one</b> subject in Groups 1, 2, 3 and 5 and <b>two</b> subjects in Group 4/6.	Yes 🗌	No 🗌
I have nominated 3 Higher Level subjects & 3 Standard Level subjects.	Yes 🗌	No 🗌
I understand that my subject selections will depend on the number of students selecting subjects and the availability of teaching staff.	Yes 🗌	No 🗌
I have only chosen HL subjects which have been <b>recommended</b> . If not, this has been approved by the DP Academic after a meeting with your House Dean.	Yes 🗌	No 🗌