

GRADE 11 AND 12
Academic Learning Programme
2018/2019

Contents

UWCSEA Academic Learning Programme pathways.....	1
Guidelines to IB prerequisites for university.....	2
Matrix of IB prerequisites for university.....	3
Language pathways at IBDP.....	4
Group 1 – Studies in Language and Literature.....	5
Group 2 – Language Acquisition.....	6
Group 3 – Individuals and Societies.....	8
Group 4 – Sciences.....	14
Group 5 – Mathematics.....	18
Group 6 – The Arts.....	20
IBDP core requirements.....	24
Homework and assessment.....	25

UWCSEA Academic Learning Programme pathways

The Academic Learning Programme at UWCSEA is one of the five elements of the UWCSEA Learning Programme. At UWCSEA the majority of our students follow the full International Baccalaureate Diploma Programme. This provides an excellent and internationally recognised pathway to higher education across the globe at all levels including world-renowned universities.

An alternative pathway, desirable to some of our students is to complete a slightly narrower range of IB Diploma Programme Course (IBDPC). This allows access to higher education, although there may be some restrictions. This option may be offered after consultation with the Vice Principal.

Selecting an IBDP package

An academically and personally challenging two-year pre-university course, the IBDP is designed to provide students of different linguistic, cultural and educational backgrounds with the intellectual, social and critical perspectives necessary for the adult world that lies ahead. Respected by schools and universities throughout the world, it is a high-quality educational programme designed and monitored by educationalists with the aim of encouraging international awareness. One of its greatest strengths is its independence from politically motivated interference by any national government.

The IBDP involves choosing three subjects to study in detail at higher level (HL) and three subjects at standard level (SL). Students must select six subjects by choosing one from each of the following groups:

Group 1—Studies in Language and Literature

Language A (first language)

Both 'Literature' and 'Language and Literature' are offered in English. Either 'Literature' or 'Language and Literature' are offered in other languages.

Group 2—Language Acquisition

Either another Language A, Language B (foreign language) or ab initio (beginners).

Group 3—Individuals and Societies

Business and Management; Economics; Geography; Global Politics; History; Philosophy; Psychology; Environmental Systems and Societies.

Group 4—Sciences

Biology; Chemistry; Physics; Sports, Exercise and Health Science; Design Technology; Computer Science; Environmental Systems and Societies.

Students selecting Environmental Systems and Societies are deemed to have satisfied the requirements of both Group 3 and Group 4. Hence they have the possibility of choosing a second subject from Groups 1–4 or 6.

Group 5—Mathematics

Mathematics, Mathematical Studies (SL only), Further Mathematics (HL only).

Group 6—The Arts

One of the following Dance, Film, Music, Theatre, Visual Arts or a second subject from one of Groups 1–5.

Course offering notes

- Further Mathematics may be offered as a seventh subject at HL.
- When planning an IBDP course, students should bear the following in mind:
 - the same subject cannot be taken at both HL and SL
 - the same language cannot be taken in both Group 1 and Group 2
 - bilingual students may take two Language A courses
 - the IB, at its discretion, occasionally gives special permission for three sciences to be taken if the student concerned has no choice but to do this for university entrance. Documentary evidence of such a requirement must be given to the IBDP Coordinator who will forward it to the IB Office and request permission. The IBDP will not allow three sciences to be taken without this written evidence
- SL subjects are not guaranteed. If insufficient numbers of students opt for a subject it may not be offered, or if the class is already full, students may not be able to choose the subject.
- The subject recommendations are the best indicator of a student's ability level in each subject, and should be used as a guiding principle when deciding what IBDP subjects to select.

IBDP core requirements

Three further requirements contribute to the unique nature of the IBDP, with compulsory participation in:

1. **Creativity, Activity, Service (CAS)**
2. **Extended Essay**, which demands independent research under appropriate guidance
3. **Theory of Knowledge** course, which explores the relationship between the disciplines and ensures that students engage in critical reflection about knowledge and experience acquired both within and beyond the classroom

The combination of subjects and requirements is a deliberate compromise between the preference for specialisation in some countries and the emphasis on breadth often preferred in others.

The intent is that students learn how to learn, how to analyse, how to reach considered conclusions about humanity, our languages and literature, our ways in society, and the scientific forces of our global environment.

Assessment

All IBDP courses have work externally assessed by examination and internally assessed work that is externally moderated. The proportion of the final grade determined by internally assessed coursework and final examination varies amongst subjects.

External examinations

Students are prepared for external examinations within each subject and sit 'mock examinations' at the start of Term 2 in January for Grade 12. Mock examinations take place over a two weeks period, during which time students are on study leave.

Final IB examinations begin in April/May and continue for a period of three weeks. A timetable of examinations is published to parents prior to the examination period. Students will begin study leave for their final examinations approximately one week prior to the first exam.

All students taking IB Diploma courses must sit the external examinations at the end of Grade 12. There is an extra cost which will be billed to parents for IB examinations.

IB Diploma score

The IB Diploma has a maximum total score of 45 points:

- three HL subjects, each with 7 points maximum
- three SL subjects, each with 7 points maximum
- IB Core (Theory of Knowledge and Extended Essay), 3 points maximum

Guidelines to IB prerequisites for university

IB Diploma recognition by universities

Recognition of the IB Diploma Programme is outlined on the IB's website, <http://www.ibo.org/en/university-admission/recognition-of-the-ib-diploma-by-countries-and-universities/>.

We urge all students to check university IBDP recognition policies for individual countries by contacting the IB Regional Office you are directed to on the IB site and reviewing the country specific requirements available here: <http://www.ibo.org/university-admission/recognition-of-the-ib-diploma-by-countries-and-universities/country-recognition-statements/>.

Students intending to study at Dutch, French, German, Italian, Swiss, or most Asian universities must check country and university-specific requirements when selecting Diploma subjects, because these countries tend to have specific requirements.

Subject guidance

Remember that the individual subject guidance from teachers is the best recommendation for course selection in each subject.

This subject guidance should form the basis of deciding what IBDP subjects to select.

FIB students

FIB students considering Science, Computer Science, or Engineering courses in either the UK or Canada need to be aware that some courses may require a background in two sciences at GCSE level. FIB Coordinated-Science is unlikely to satisfy this requirement and you may therefore need to take the two required sciences at IBDP level.

IB Diploma courses candidates

Students who take IB Diploma courses instead of the full IB Diploma Programme will graduate with a UWCSEA High School Diploma that is accredited by the Western Association of Schools and Colleges (WASC). These students may apply to universities as a US High School Diploma holder and are, in many cases, eligible for direct entry to Australian, Canadian, Dutch, Korean, UK, and US universities. Students will, however, usually need to meet minimum grade and testing requirements (usually a specific score on the American SAT or ACT test). Additionally, some universities may require that students first complete a foundation programme before being granted direct entry to certain courses. Students are urged to consult with a University Advisor before finalising their decisions.

What impact will my IBDP choices have on my university options?

This is a complex question and the answer depends on which country, university and subject you are considering after high school. National systems and individual universities that offer specialised courses tend to expect that students will have been exposed to certain subjects prior to joining a subject-specific course or faculty. **The Matrix of IBDP prerequisites for university** on the following page, outlines in very broad terms some of the known prerequisites for common course subjects in popular countries. **This is a guideline only and is meant to be illustrative of where students can begin their research.** There are a vast number of university courses which have no specific IBDP subject prerequisites.

Frequently asked questions

I don't know what I want to do at university; must I make a decision now?

- No, you don't need to decide what you want to do at university now and it is very normal not to be sure. However this is an opportunity to start thinking about the future and considering where your academic strengths and interests lie.
- The University Advising microsite has resources to help you explore career interests and aptitudes. Go to <https://www.uwcsea.edu.sg/uac/university-match/>.

Are HL and SL IBDP subjects considered equally important by universities?

- How you do overall in your IBDP is as important as how well you do in each subject.
- Some universities make conditional offers, usually requiring a certain total number of points, as well as specific subjects and grades in HLs.
- It's important to be confident about HLs, but you can't afford to neglect SLs.

What is a vocational or professional subject?

- Something job-related, e.g., Architecture, Business, Engineering, Law, Medicine. If you are thinking about studying any vocational subject, you need to do some research: is this the right career area for you?
- It is becoming more and more expected that prior to applying to vocational subjects, students will have gained some relevant practical experience, e.g., volunteering at a hospital or in a relevant service activity, working with an architect in the summer, etc.

What careers can I pursue with my IBDP subjects?

- The IBDP combines breadth and depth and is intended to give you a broad enough foundation to pursue a wide range of possible options at university.
- Many subjects at IBDP, and many university courses, do not lead to a particular career, but rather equip you with the skills needed to succeed at a professional level. Courses such as English, Geography, Chemistry, and Economics all fall into this category; non-vocational degree courses at university can lead to numerous career paths, some that may not even exist at present. Attend the Careers Fair, our Careers in Focus chats, and other information sessions to understand more about what different professions are about, and what you might need to study to get there.

Do universities prefer some IBDP subjects over others?

- Some highly selective universities prefer IBDP packages with no more than one non-traditional or vocational subject.
- US applicants should note that the list of subjects indicated as 'Recommended High School Preparation' in some college websites/guides is intended for US high school applicants and need not be strictly followed by IBDP students.

Can I take three sciences in my IB package?

- You can only take three sciences with special permission of the IBO through the IB Coordinator and will have to prove that you need that package for university entrance (e.g., to study Medicine in India or the Netherlands). You should be very sure of your university course and country requirements if you intend to apply for permission to take a three-science package. If you change your mind you may be stuck with a very demanding package. More information is available on the UAC website: www.uwcsea.edu.sg/uacdoover.

Matrix of IB prerequisites for university

This matrix contains general guidelines that are a starting point but requirements for specific programmes can change. There is a wide variety of subjects not listed here that can be studied at university level, many of which have no specific IBDP prerequisites. However, some programmes do have IBDP prerequisites in order to apply, and because entry requirements can vary and change, this information cannot be taken as definitive.

It is essential that students conduct their own research to ensure their IBDP subject package meets their needs.

	United Kingdom	Australia	Canada	USA	Singapore
Architecture (may require portfolio)	may require HL or SL Mathematics; HL Physics; Visual Arts or DT	may require HL Visual Art	may require HL or SL Mathematics; Chemistry and Physics at SL or HL	recommend HL or SL Mathematics and HL Science and Visual Art or DT for B.ARCH	recommend HL Math and Science; may require SL Mathematics or Chemistry or Physics
Art and Design, Performing Arts (may require portfolio or audition)	usually require relevant IB subject	may require Visual Art for both Art and Design courses	recommend relevant IB subject	recommend relevant IB subject	recommend relevant IB subject
Business/Commerce (IB Business Management not required)	may require HL or SL Mathematics	may require at least SL Mathematics	often require at least SL Mathematics	no specific prerequisites	may require SL Mathematics
Computer Science (IB Computer Science not required)	may require HL Mathematics	may require at least SL Mathematics	usually require at least SL Mathematics; usually require Chemistry and Physics at HL or SL	no specific prerequisites; recommend HL Computer Science and at least SL Mathematics	May require HL Computer Science, Mathematics or Physics

continued on next page

	United Kingdom	Australia	Canada	USA	Singapore
Economics	may require SL or HL Mathematics	may require at least SL Mathematics	often require at least SL Mathematics	no specific prerequisites; IB Economics usually not required	may require SL Mathematics
Engineering	usually require HL Mathematics and HL Physics	may require at least SL Mathematics and Chemistry or Physics at SL or HL	usually require at least SL Mathematics; usually require Chemistry and Physics at SL or HL	recommend HL Mathematics and one or more HL sciences, usually HL Physics;	may require HL Mathematics, HL Chemistry or HL Physics
English Literature	recommend English Literature at HL	recommend English Literature at HL	recommend English Literature at HL	no specific IB requirements	no specific IB requirements
Humanities/ Bachelor of Arts	usually require relevant subject at HL if offered in IB (e.g., History, Philosophy)	no specific IB requirements	no specific IB requirements	no specific IB requirements	no specific IB requirements
Social Sciences/ Bachelor of Science	usually require relevant subject at HL if offered in IB (e.g., Geography)	may require SL Mathematics	may require SL Mathematics	no specific IB requirements	no specific IB requirements
Science	may require SL or HL Mathematics and one or more HL science; recommend two sciences	may require SL Mathematics and one HL Science	may require HL or SL Mathematics; usually requires two Sciences	no specific IB requirements	two of: HL Biology, HL Chemistry, HL Physics, HL Mathematics, HL Computer Science
Law (essay-based subject at HL recommended)	recommend English Literature or Language/Literature at HL	no specific IB requirements	<i>not available as undergraduate option</i>	<i>not available as undergraduate option</i>	may require specific grade in SL English
Medicine	require HL Chemistry and one other science, usually at HL; recommend HL Biology	may require SL or HL Chemistry and at least SL Mathematics	<i>not available as undergraduate option</i>	<i>not available as undergraduate option</i>	usually require HL Chemistry and HL Biology or HL Physics
Psychology (IB Psychology not required)	may require SL Mathematics; may require one HL Science	may require at least SL Mathematics	BSc may require at least SL Mathematics and two Sciences	no specific prerequisites	may require SL Mathematics

Note: European universities often have specific IB prerequisites in Languages, Humanities/Social Sciences, Mathematics, and Sciences. Interested students must check individual university websites for details.

Language pathways at IBDP

At UWCSEA we fully support and uphold the IBO Language guidelines that state that students should follow the IB Language course that offers 'the most appropriate level of challenge'. As such we would expect students to follow the pathways outlined below if they intend to continue with their Language at IBDP.

- (I)GCSE First Language leads to IB Language A
- (I)GCSE Second Language (available in Chinese only) leads to IB Language B HL
- (I)GCSE Foreign Language leads to IB Language B

Additional guidance from our University Advisors highlights that Universities do expect to see this continuity of language level from (I)GCSE to IB.

Group 1 – Studies in Language and Literature

Language A

Both the 'Language and Literature' and the 'Literature' courses are available at SL and HL in English Language. Other languages (French, German, Spanish, Japanese, Korean and Chinese) offer either the 'Literature' or the 'Language and Literature' course. Additional information about the Dutch programme can be found in the *Nederlandse Taal en Cultuur* guide.

Group 1 courses meet the requirements of students whose Language A is their strongest language, while taking into account that many students selecting these courses have complex language profiles and may be bi- or tri-lingual. While the 'Literature' and the 'Language and Literature' courses are different, they both develop understanding about language and literature, and are both designed to support future academic study by developing language skills. Both courses include the study of texts in translation, which gives the opportunity for the exchange of ideas about cultural diversity that are integral to the UWC ethos.

Course content – Literature

"That is part of the beauty of all literature. You discover that your longings are universal longings, that you are not lonely and isolated from anyone. You belong." (F. Scott Fitzgerald).

In IB Literature, students read a range of texts in different genres and from different regions and periods, chosen by the class teacher from the extensive prescribed IB book lists. Work in the classroom encompasses a variety of oral, written, creative and analytical activities, designed to encourage students to respond to literary texts in different ways and to fully appreciate the value of literature in the way it can make imaginative sense of the world.

Course content – Language and Literature

The Language and Literature syllabus comprises four main sections. In Parts 1 and 2, a wide range of texts are studied to introduce students to the linguistic topics of 'language in a cultural context', as well as 'language and mass communication.' In Parts 3 and 4, students study literary texts of different genres and from different regions, periods and contexts. HL students study six literary texts while SL students study four. Work in the classroom encompasses a variety of oral, written, creative and analytical activities, designed to encourage students to respond in different ways to the widest range of texts such as images with or without text, literary and non-literary texts, films and their scripts, oral texts and electronic texts.

Skills developed in Language A courses

- ability to express ideas clearly and with fluency orally and in writing
- ability to substantiate and justify ideas with relevant examples
- ability to evaluate conflicting viewpoints
- understanding of the ways in which cultural values are expressed in texts
- understanding of text structure, style and the writer's technique
- ability to compare and contrast the form, style and content of texts
- understanding of individual literary works as representatives of genre and period

Assessment

External assessment – 70%

Two written examination papers:

- **paper 1:** close analysis of unseen passage(s) (literary extracts for the Literature course) – 20% in Literature; 25% in Language and Literature
- **paper 2:** literature essay paper – 25%

Written coursework assignment – 25% in Literature; 20% in Language and Literature

Internal assessment – 30%

Two oral assessments:

- **formal oral commentary** (on a literary text) – 15%
- **class-based oral presentation(s)** or other oral activity – 15%

University courses and careers

The Group 1 courses help prepare students for a wide range of university courses. Study at HL in particular prepares for study in Literature, Linguistics and Media, but also prepares well for the Humanities in general. The more obvious careers related to the study of Literature and Language are journalism, publishing, working in radio and television, advertising and teaching.

However, the courses also provide training in some fundamental skills that can then be directed into areas such as business, law, accountancy and marketing.

School-Supported Self Taught Languages A (SSSTA)

Students may take their mother tongue as a School-supported Language A, even if no teacher of the language is available or the number of students is too small to warrant a separate class. This option is only available at SL.

In the past few years students have studied the following as their mother tongue/first language: Afrikaans, Albanian, Amharic, Belarusian, Burmese, Croatian, Czech, Danish, Dhivehi, Georgian, Gujarati, Hebrew, Hungarian, Indonesian, Lao, Modern Greek, Mongolian, Norwegian, Oromo, Pilipino, Polish, Portuguese, Punjabi, Romanian, Russian, Serbian, Sinhalese, Siswati, Slovene, Swahili, Swedish, Telugu, Thai, Turkish, Vietnamese and Urdu. Other languages may be available upon request from the IB.

Course content

With the assistance of the Coordinator, students choose eight literature texts for study from the IB book list in their Language A and a reading timetable is put in place. In Grade 11, students read and analyse the compulsory Works in Translation and additional literary materials relating to their assessment activities. Regular homework is set. The College engages qualified marking tutors in the relevant Language A to mark, assess and give feedback on students' work on a regular basis. The Marking Tutors, appointed by the College are carefully selected on the basis of their experience and expertise. The College heavily subsidises the costs incurred in employing these Marking Tutors. However, there is an additional charge of S\$330 per year to cover part of the cost of providing this service.

In Grade 12, the Coordinator also sets reading targets for the second year of the course. In class, students refine their communicative competence by preparing, practicing and reflecting on written and oral assignments. Students' work is also assessed and commented on by the Marking Tutor. Throughout the course students also attend regular classes with the SSSTA Coordinator to discuss learning strategies, examine tutors' feedback, assess academic and linguistic

progress and solve any practical difficulties arising from the course and the assessments.

Additional support

Parents may wish to engage the services of a tutor at their own cost.

Skills developed

Students develop the skills of literature analysis and are consequently able to express complex ideas in both their mother tongue and in English. Through the independent self-study of literature works in their own language, students also demonstrate an ability to work independently—a quality sought by universities.

Assessment

The IB sets oral exams for individual SSSTA students. The students record their responses and these are assessed externally by the relevant IB examiner for the language.

External assessment – 100%

- exam critical commentary – 20%
- exam essay – 25%
- coursework essay based on Works in Translation – 25%
- externally assessed orals – 30%

University courses and careers

Studying a SSSTA is very advantageous for students wishing to return to their home country for tertiary studies. Some countries demand proof of competence in the national language before admitting students.

In addition, the self-taught element of the course is practical evidence that the students are self-starters and have the ability to organise their own learning. For students who choose to study in English speaking countries, certified competence in mother tongue can be a great asset for research purposes and to improve chances in a very competitive job market.

Bilingual Diploma

The Bilingual Diploma is awarded to any student who successfully completes a Language A course in any language other than English.

Therefore students who take English B will also be awarded a Bilingual Diploma.

Group 2 – Language Acquisition

Language B

Language B courses intend to provide students with a high degree of proficiency in their chosen language and to further develop their understanding of different cultures and ways of life of the languages studied.

Course content

Language B options: English (HL only), French, German, Spanish or Chinese (SL and HL).

The course is designed for students with previous experiences of learning a foreign language (normally 3–5 years), and is suitable for those who have displayed both ability and interest in their previous foreign language classes. The syllabuses for both HL and SL are similar in content, although HL is a more intensive course and the proficiency level achieved is higher. HL courses also require students to explore some literary texts.

The objective of the Language B course is for students to communicate clearly and effectively in different styles and contexts while studying the cultures associated with the language. Students will gain a better understanding and use of grammatical structures and vocabulary through studying a variety of topics. These topics all offer a cultural perspective and enable students to take part in discussions on a wide variety of issues. Examples of such topics include communication and media, global issues, and social relationships. Students will be encouraged to reflect upon their own perspectives, those of the school and those of the target language culture.

There are five prescribed themes

- Identities
- Experiences
- Human Ingenuity
- Social Organisation
- Sharing the Planet

Groups of text types

- personal
- professional
- mass media
- two literary (HL only)

With five conceptual understandings

- audience
- context
- purpose
- meaning
- variation

Please note that the full IB Language B syllabus is yet to be published by the International Baccalaureate Office.

Skills developed

Students further develop the four main skills of listening, reading, writing and speaking through studying a variety of topic areas and carrying out a range of individual and group work activities.

Examples include:

- **listening** – news bulletins, interviews, films, internet
- **speaking** – presentations, debates, discussions, role plays
- **reading** – news articles, letters, interviews, internet
- **writing** – letters to newspapers, film reviews, diary entries, essays

Assessment

Four components of Listening, Speaking, Reading, Writing, each worth 25%.

HL

- **paper 1:** writing (1 hour 30 minutes)
 - One task, 450-600 words, chosen from list of Text Types given, based on three of the five themes.
- **paper 2:** receptive (2 hours)
 - **reading** – three exercises, including one literary extract
 - **listening** – three **authentic** passages
- **Individual Oral** (12-15 minutes plus 20 minutes preparation)
 - Based on extract from one of the literary works, plus general conversation on themes.

SL

- **paper 1:** writing (1 hour and 15 minutes)
 - One task, 250 – 400 words, chosen from list of text types given, based on three of the five themes.
- **paper 2:** receptive (1 hours 45 minutes)
 - reading – three exercises
 - listening – three **authentic** passages
- **Oral individual** (12–15 minutes plus 20 minutes preparation)

University courses and careers

Both courses prepare students adequately to study language at university. Many students also pursue a year abroad option offered by programmes such as Erasmus, where students can study their chosen subject and, therefore, language, in another country. The linguistic competence offered by a Language B course will help candidates in the competitive world of job applications.

Language B: ab initio

The ab initio courses offer students the chance to take up a new language at IBDP and to reach a reasonable level of communication in only two years. This is a good course for students who are interested in learning how to communicate effectively in everyday situations and for students who have little or no previous experience of learning a foreign language.

Course content

ab initio languages available: French, Mandarin, Spanish

The ab initio course is designed for complete beginners who have not studied a foreign language in the past. The emphasis is on practical utility and communication. Over the two years, students acquire the vocabulary and grammatical structures they need to use in everyday social interaction and situations. The course develops a variety of linguistic skills and basic awareness of culture.

Students study the three themes of:

1. the individual and society
2. leisure and work
3. the rural and urban environment

Please note that the full Language ab initio syllabus is yet to be published by the IBO.

Skills developed

The ab initio course aims to develop the following skills:

- **listening** – understanding straightforward conversations and the overall idea of a presentation

- **reading** – understanding straightforward information and skimming to extract key points and ideas in text.
- **writing** – conveying information clearly, organizing ideas, giving details and opinions and using language appropriate to purpose and audience
- **speaking** – participating in spontaneous conversations, giving information and opinions clearly in brief structured presentations

Assessment

Four components of listening, speaking, reading, writing, each worth 25%.

- **paper 1:** writing (1 hour)
 - Two tasks: 70–150 words
- **paper 2:** receptive (1 hours 45 minutes)
 - reading: three exercises
 - listening: three **authentic** passages
- **Oral individual** (7–10 minutes plus 20 minutes preparation)

University courses and careers

After two years, students possess the skills and knowledge to be able to carry on learning the language independently. Whilst not high enough to study languages at University, the level achieved allows students to take intermediate or combined language courses at university. The linguistic competence offered by the ab initio course will help candidates in the competitive world of job application.

Bilingual Diploma

The Bilingual Diploma is awarded to any student who successfully completes a Language A course in any language other than English. Therefore students who take English B will also be awarded a Bilingual Diploma.

Group 3 – Individuals and Societies

Business and Management

A student who has studied Business and Management will be able to understand the complexity and dynamism of the business environment. Students study a variety of business situations with an emphasis on the changing nature of business within both local and global contexts. The focus of studies ranges from corporate social responsibility through to stock valuation. Students who have taken this course can progress from school to higher education or directly into employment in industry or commerce.

Course content

- introduction to organisations
- marketing
- human resources
- operations management
- accounts and finance

Skills developed

- enable students to develop the capacity to think critically
- enhance the student's ability to make considered decisions
- enable students to appreciate the pace, nature and significance of change

Assessment

External assessment – 75% (HL and SL)

- **paper 1:** pre-issued case study – 40% (HL) 35% (SL)
- **paper 2:** structured questions and a 'concept based' extended response question – 35% (HL) 40% (SL)

Internal assessment – 25% (HL and SL)

- **HL** – 2,000 word business report
- **SL** – 1,500 word commentary

University courses and careers

A background in business is helpful in a wide variety of disciplines. However, it is also very useful in the study of law, international studies, political sciences, a wide range of business-related courses, and certain engineering courses.

Economics

Economics is essentially about the concept of scarcity and the problem of resource allocation. Economics is used to understand many real world problems, such as international trade and development. The IBDP courses are ab initio, which means you may start Economics (HL and SL) in the IBDP without having studied it before.

Course content

- Introduction to Economics
- Microeconomics: markets; theory of the firm (HL only); market failure
- Macroeconomics: measuring the economy; introduction to development; macro models and policies; unemployment, inflation and distribution
- International economics: reasons for trade; protectionism;
- Economic integration; WTO; balance of payments; exchange rates
- Development economics: sources, consequences, barriers and strategies of growth and/or development

Skills developed

- provide students with a core knowledge of economics
- encourage students to think critically
- promote an awareness and understanding of internationalism
- encourage students' development as independent learners
- enable students to recognise their own tendencies for bias

Assessment

External assessment (4 hours) – 80% (HL and SL)

- **paper 1:** extended response paper, two essays from four (1.5 hours) – 30% (HL) 40% (SL)
- **paper 2:** data response, two questions from four (1.5 hours) – 30% (HL) 40% (SL)
- **paper 3:** HL quantitative paper, two questions from three (1 hour) – 20%

Internal assessment – 20% (HL and SL)

- **portfolio:** three commentaries analysing articles linking economic theory to a real-world situation

University courses and careers

There are many areas of economics that can be studied from transport to development. It is also a great help in the study of law, international studies, political science, business, certain engineering courses and many other disciplines. It is very helpful in most jobs, but even if one never uses it professionally, it enables individuals to understand what is happening, day-to-day, in the complex world that surrounds them.

Geography

"Simply put, geography is our future. When we look at any issue with the balance and scrutiny that geographical study offers, we move beyond the media hype or political spin. Geography allows us to see the world more clearly." – Tom Biebrach, Geographical Association.

Geography is an academically robust subject that spans the social and physical sciences and promotes a lifelong interest and fascination in how the world works. It is the study of places and people with an emphasis on how the environment plays a role in their interaction. It seeks to identify trends and patterns in these interactions. It also investigates the way in which people adapt and respond to change, and evaluates actual and possible management strategies associated with such change. Geography describes and helps to explain the similarities and differences between places. These may be defined on a variety of scales and from the perspectives of a different range of actors, with varying powers over decision making processes.

Within the Group 3 subjects, Geography is distinctive in its spatial dimension and occupies a middle ground between social or human sciences and natural sciences. The Diploma Programme Geography course integrates physical, environmental and human geography, and ensures that students acquire elements of both socio-economic and scientific methodologies. Geography takes advantage of its position to examine relevant concepts and ideas from a wide variety of disciplines. This helps students develop life skills and have an appreciation of, and a respect for, alternative approaches, viewpoints and ideas.

Course content

The aims of the course at SL and HL are to enable students to:

1. Develop an understanding of the dynamic interrelationships between people, places, spaces and the environment at different scales.
2. Develop a critical awareness and consider complexity thinking in the context of the nexus of geographic issues, including: – acquiring

an in-depth understanding of how geographic issues, or wicked problems, have been shaped by powerful human and physical processes – synthesizing diverse geographic knowledge in order to form viewpoints about how these issues could be resolved.

3. Understand and evaluate the need for planning and sustainable development through the management of resources at varying scales.

- **paper 1:** Geographic themes
 - Leisure, tourism and sport
 - Geophysical (tectonic) hazards
 - Oceans and coastal margins
- **paper 2:** Geographic perspectives— global change
 - Population distribution— changing population
 - Global climate— vulnerability and resilience
 - Global resource consumption and security
- **paper 3:** Geographic perspectives— global interactions (HL only)
 - Power, places and networks
 - Human development and diversity
 - Global risks and resilience

Fieldwork and trip

Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis with evaluation. For the fieldwork, the three geographic themes (leisure, tourism and sport, geophysical hazards, oceans and coastal margins) are investigated. This will be carried out on four night trip to east Bali, Indonesia.

Skills developed

- developing a 'sense of place'
- map interpretation skills and analysis of other sources of secondary sources of spatial data (such as satellite images and infographics)
- primary data collection techniques (in the 'field')
- independent investigation and report writing
- data manipulation and presentation
- collaboration and teamwork
- oral presentation skills

Assessment

External assessment – 80% (HL) 75% (SL)

- **paper 1:** 35% (HL & SL)
 - Each option has a structured question and one extended answer question from a choice of two.
- **paper 2:** 25% (HL) 40% (SL)
 - Three structured questions, based on each SL/HL core unit.
- **paper 3:** 20% (HL only)
 - Choice of three extended answer questions, with two parts, based on each HL core unit.

Internal assessment – 20% (HL) 25% (SL)

- Complete a 2,500 word written report based on a fieldwork question, information collection and analysis with evaluation.

University courses and degrees

Geography is part of the academic group of English Baccalaureate GCSE subjects and the Russell Group of universities which have recognised geography as one of their preferred 'facilitating subjects'. This means that ability in geography supports an application into a wide range of undergraduate courses.

The knowledge and transferable skills that geographers gain from their degree studies are highly relevant to the workplace and geography graduates experience some of the lowest levels

of graduate unemployment. You will find geographers working in every sector of the global economy including financial hubs, local businesses, not-for-profit organisations, leading highly relevant research or as key decision makers in local and national governments.

Studying geography also helps us to understand many of the issues we face globally, such as how we might respond to the impact of climate change or be better prepared for natural hazards. It is the new research undertaken by geographers that is informing the debate about these challenges and helping us to navigate through the world's geographically complex people, places and environments.

Global Politics

The 21st century is characterised by rapid change and increasing interconnectedness, impacting people in unprecedented ways and creating complex global political challenges. The study of global politics enables students to critically engage with different and new perspectives and approaches to politics, in order to better make sense of this changing world and their role in it as active citizens. Global politics is an exciting dynamic subject which draws on a variety of disciplines in the social sciences and humanities, reflecting the complex nature of many contemporary political issues.

The Global Politics course explores fundamental political concepts such as power, equality, sustainability and peace, in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity, as well as allowing them the opportunity to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real world examples and case studies. It also invites comparison between such examples and case studies to ensure a transnational perspective.

Course content

The aims of the course at SL and HL are to enable students to:

- understand key political concepts and contemporary political issues in a range of contexts
- develop an understanding of the local, national, international and global dimensions of political activity
- understand, appreciate and critically engage with a variety of perspectives and approaches in global politics
- appreciate the complex and interconnected nature of many political issues, and develop the capacity to interpret competing and contestable claims regarding those issues

There are four compulsory units:

1. Power, sovereignty and international relations
2. Human rights
3. Development
4. Peace and conflict

HL extension: Global political challenges

Two of the following six global political challenges must be studied.

1. The environment and sustainability
2. Poverty
3. Health and disease
4. Culture and identity
5. Migration
6. International security

Skills developed

The Global Politics course engages students with key political concepts and contemporary political issues in a variety of contexts and through

a variety of approaches. Through teaching and learning in the subject, students develop a holistic and nuanced understanding of global politics and acquire the skills needed to analyse, evaluate and act on political issues they encounter inside and outside of the classroom.

Assessment

SL

External assessment – 75%

- **paper 1:** (1 hour 15 minutes) – 30%
 - stimulus based paper based on a topic from one of the four core units
 - four compulsory short-answer/ structured questions
- **paper 2:** (1 hour 45 minutes) – 45%
 - extended response paper based on the four core units
 - students must write two essays from a choice of eight, each selected from a different core unit

Internal assessment – 25%

This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. This comprises an engagement activity upon which a report is produced.

Engagement activity (20 hours)

Students undertake an engagement activity and then produce a 2000 word report analysing the political issue explored in that activity.

HL

External assessment – 80%

- **paper 1:** (1 hour 15 minutes) – 25 marks
 - Stimulus based paper on a topic from one of the four core units.
 - Four compulsory short-answer/ structured questions.
- **paper 2:** (2 hours 45 minutes) – 75 marks
 - Extended response paper based on the four core units.
 - Students must write three essays from a choice of eight, each selected from a different core unit.

Internal assessment – 20%

This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.

HL extension (20 marks)

• Oral component

Externally assessed oral presentation of selected political issues in two case studies from two different HL extension topics. A 10-minute presentation per case study.

Engagement activity (20 hours, 20 marks)

Students undertake an engagement activity and then produce a 2,000 word report analysing the political issue explored in that activity.

University courses and careers

There are many areas of political science that can be studied at university including, but not limited to, international politics and comparative politics of developing nations. Global Politics is also a great help in the study of law, international relations, economics, business, journalism, history and many other disciplines. The Global Politics course is of value to all students as it is designed to develop international mindedness through an examination of fundamental global political concepts and current case studies.

History

History is the study of human past, of the things that drive, divide and bind us. It gives us insight into our capabilities and limitations as humans. Students learn to identify and analyse patterns of change over time and to examine the causes and consequences of significant events.

IB History students analyse historical sources and to make judgements about the reliability of the evidence. This is not only a key disciplinary skill but a highly relevant life skill in our digital information age. The study of History raises questions about how knowledge is acquired and whether or not objectivity is possible. Due to its unique discipline, History is the only Group 3 subject to have its own separate Area of Knowledge on the TOK course.

History is deeply connected to issues of national and personal identity. As History is prone to be used for political ends it is vital that we analyse the past from multiple perspectives. One of the questions that we have to ask, especially in a community as diverse as ours, is 'Whose History do we teach and whose do we leave out?' The IB course attempts to cover a range of issues and perspectives that additionally help us to make sense of the world today.

Course content

Rights and Protests (1950s–1960s)

- case studies: Civil Rights in the United States and Apartheid South Africa
- source-based approach

Independence Movements (1800-2000)

- three case studies will be explored from different global regions
- focus on reasons for the rise of independence movements, reasons for their success and the challenges of newly independent states
- comparative approach

Authoritarian States (Twentieth century)

- three case studies will be explored from different global regions
- focus on reasons for the rise of dictators, as well as the impact of authoritarian rule
- comparative approach

Coursework

Students devise their own historical investigation question on any historical topic.

Additional paper for Higher Level students:

Aspects of Asian History

- Indian Nationalism and Independence, 1919–1964
- Challenges to traditional East Asian societies, 1700-1868
- Early modernisation and imperial decline in East Asia 1860-1912

Skills developed

Students learn to:

- develop rigorous and cogent arguments in an essay format
- make reasoned and substantiated judgements (often using conflicting evidence)
- critically evaluate the reliability of historical sources (both primary and secondary)
- identify, analyse and synthesise different interpretations of the past
- develop independent research skills, by identifying investigation questions and appropriate sources
- verbally present information and ideas with expertise and confidence

Assessment

External assessment – 80% (HL) 75% (SL)

- **paper 1:** (60 minutes) – 20% (HL) 30% (SL)
 - source-based paper
 - answer structured questions on one of the two Rights and Protests case studies
- **paper 2:** (90 minutes) – 25% (HL) 45% (SL)
 - answer two essay questions, each from a different topic
 - there will be a choice of two questions per topic
 - some questions will require candidates to provide examples from two regions
- **paper 3:** (150 minutes) – 35% (HL only)
 - answer any three essay questions from any of our three units
 - there will be a choice of two questions per unit
 - the mark bands are very similar to paper 2 but essays will require a little more detailed support

Internal assessment – 20% (HL) 25% (SL)

- complete a 2,200 word independent investigation on any historical topic of the candidate's choosing
- contains separate sections on analysis, source evaluation and personal reflection

University courses and careers

History is widely respected as a subject, both in terms of content and skills, and as such, historians remain highly sought after by university admissions departments and employers alike. History and Geography are the only two Group 3 subjects listed by the Russell Group (UK) of universities as a 'facilitating subject'—meaning that ability in History opens up a range of possibilities at university and beyond. History graduates have gone on to be very successful in a wide range of careers, including law, government and non-government organisations, business and economics, journalism and broadcasting.

Philosophy

IB Philosophy explores issues that are profound, complex, challenging and important for humanity. Examples of questions to be asked are: *What is it to be human? Do we have free will? What do we mean when we say something is right or wrong? Is morality relative or absolute? What is Justice?*

The course emphasizes a systematic critical inquiry into these concepts. It seeks to actively engage students in philosophical activity and encourage them to develop into independent thinkers. The course also develops highly transferable skills such as the ability to formulate arguments clearly, to make reasoned judgments and to evaluate highly complex and multifaceted issues.

Students are given the opportunity to engage with some of the world's most interesting and influential thinkers. However the emphasis of the philosophy course is on 'doing philosophy', that is, on actively engaging students in philosophical activity. The course is focused on stimulating students' intellectual curiosity and encouraging them to examine both their own perspectives and those of others.

Course content

Core theme: Being Human

One of the reasons we study philosophy is to search for a better understanding of ourselves, both as individuals and as members of our communities, and this search is at the heart of this element of the course. This compulsory theme for both SL and HL explores the

fundamental question of what it is to be human. This exploration takes place through areas of study such as identity, freedom, mind and body, and human nature. The core theme also provides an opportunity for students to engage with interpretations of the human condition from diverse world perspectives. These perspectives ask different questions, for example: *Do we have such a thing as an enduring Self? What specific meaning does our consciousness of being mortal give to our life? Is there such a thing as an inherent Human Nature?*

Optional themes

The purpose of the optional themes is to provide students with an opportunity to explore specific areas of philosophy in-depth. Some of the optional themes on offer are: *Ethics, Philosophy and Contemporary Society, Philosophy of Religion, Political Philosophy*

Students at HL study two optional themes, and students at SL study one optional theme from this list. Themes are selected based on teacher expertise, student interest and availability of resources.

Prescribed text

This is an opportunity for students to gain in-depth knowledge and understanding of a primary philosophical text. The prescribed list of texts includes: *The Republic by Plato, The Ethics of Authenticity by Charles Taylor, and The Life You Can Save by Peter Singer.*

HL extension

HL students are required to explore the nature of philosophical activity through an analysis of an unseen extract. This aspect of the course focuses on the fundamental question of what philosophy is, and how we do it.

Skills developed

Students learn to:

- develop an intellectually independent and creative way of thinking
- analyse arguments to critically understand their assumptions, reasoning and implications
- formulate arguments in a rational and logical way
- express ideas clearly and coherently, and use language appropriate to philosophy
- examine critically their own experience and their ideological and cultural biases

Assessment

External assessment – 80% (HL) 75% (SL)

- **paper 1:** core theme and optional themes (2 hours 30 minutes / 1 hour 45 minutes)
- **paper 2:** prescribed text (1 hour)
- **paper 3:** analysis of unseen text (1 hour 15mins, HL only)

Internal assessment – 20% (HL) 25% (SL)

University courses and careers

Recent studies by employer organisations, numerous national governments and employment agencies have shown that philosophy as a subject is exceptionally well regarded by universities and employers given the skills and perspectives it actively encourages. The focus of contemporary education is more and more about providing foundational and life-long learning skills in preparation for the dynamic nature of the employment market, and as such philosophy is an ideal subject. It is also personally satisfying as it broadens the mind and deepens understanding while being beneficial for academic performance across the curriculum.

The issues covered in the core theme, 'What is a Human Being?' and the ethics and political philosophy themes have direct relevance to careers in law, medicine, politics, business, education, non government organisations, sciences, and even computer sciences.

Psychology

Psychology is the rigorous and systematic study of mental processes and behaviour. It is a complex subject which draws on concepts, methods and understandings from a number of different disciplines. There is no single approach that would describe or explain mental processes and behaviour on its own as human beings are complex animals, with highly developed frontal lobes, cognitive abilities, involved social structures and cultures. The study of behaviour and mental processes requires a multidisciplinary approach and the use of a variety of research techniques whilst recognising that behaviour is not a static phenomenon, it is adaptive, and as the world, societies and challenges facing societies change, so does behaviour.

Course content

At the core of the psychology course is an introduction to three different approaches to understanding behaviour:

- biological
- cognitive
- sociocultural

The knowledge, concepts, theories and research that have developed the understanding in these fields will be studied and critically evaluated to answer some of the questions being asked by psychologists today. Furthermore, the interaction of these approaches to studying psychology will form the basis of a holistic and integrated approach to understanding mental processes and behaviour as a complex, dynamic phenomenon, allowing students to appreciate the diversity as well as the commonality between their own behaviour and that of others.

The contribution and the interaction of the three approaches can be best understood through the options. There are four options in the course. They focus on areas of applied psychology:

- abnormal psychology
- developmental psychology
- health psychology
- psychology of human relationships

The options provide an opportunity to take what is learned from the study of the approaches to psychology and put it into the context of specific lines of inquiry, broaden students' experience of the discipline and develop the students' critical inquiry skills.

Surrounding the approaches and the options are the overarching themes of research and ethics. A consideration of both is paramount to the nature of the subject.

Psychologists employ a range of research methods, both qualitative and quantitative, in order to test their observations and hypotheses. As a part of the core syllabus, psychology promotes an understanding of the various approaches to research and how they have been used in order to critically reflect on the evidence as well as assist in the design, implementation, analysis and evaluation of the students' own investigations.

Psychology studies human beings and as such it is paramount that the ethical implications in any line of investigation, and at all points in the course, are fully explored and understood to ensure that ethical guidelines are followed at all times.

Distinction between SL and HL

There are three main distinctions between this course at SL and at HL.

1. The following extensions to the core approaches are studied at HL only:
 - the role of animal research in understanding human behaviour
 - cognitive processing in the digital world
 - the influence of globalisation on individual attitudes, identities and behaviour

This differentiation is reflected in paper 1 section B of the external assessment.

2. SL students are required to study one option while HL students study two options. This differentiation is reflected in paper 2 of the external assessment.
3. Both SL and HL students will be expected to show their understanding of approaches to research in the internal assessment and for criterion D (critical thinking) in paper 1 section B and paper 2 responses. Additionally, HL students will be directly assessed on their understanding of approaches to research in paper 3 of the external assessment. This will cover both qualitative and quantitative research methods.

The aims of the course at SL and at HL are to:

- develop an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour
- apply an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour to at least one applied area of study
- understand diverse methods of inquiry
- understand the importance of ethical practice in psychological research in general and observe ethical practice in their own inquiries
- ensure that ethical practices are upheld in all psychological inquiry and discussion
- develop an awareness of how psychological research can be applied to address real-world problems and promote positive change

Skills developed

- an understanding of the biological, social and cultural influences on human behaviour
- an interpretation of psychological research to apply the resulting knowledge for the benefit of human beings
- an awareness of how applications of psychology in everyday life are derived from psychological theories
- an understanding of and ability to use diverse methods of psychological inquiry

Assessment

SL

- **paper 1** (2 hours) – 50%: short answer and extended response questions on the levels of analysis
- **paper 2** (1 hour) – 25%: extended response question on one of the options
- **experimental study** – 25%

HL

- **paper 1** (2 hours) – 35%: short answer and extended response questions on the levels of analysis
- **paper 2** (2 hours) – 25%: extended response question on two of the options
- **paper 3** (1 hour) – 20%: short answer response questions on research methodology
- **experimental study** – 20%

University courses and careers

There are many different areas of psychology that may be studied, including but not limited to, clinical, educational, forensic or developmental psychology. It is also, however, a valuable background in the study of any of the social sciences, business, law, or medicine.

Environmental Systems and Societies (ESS) (SL only)

Group 3 and 4 subject

This exciting SL course provides students a balanced perspective on the wide range of inter-relationships between the environment and different societies; one that enables them to adopt an informed personal response to the wide range of pressing environmental issues that they may very well come to face in later life. The course also encourages students to evaluate the scientific, ethical and sociopolitical aspects of environmental issues.

ESS takes a look at the environment from a systems viewpoint and attempts to understand its dynamic yet self-controlled nature. It leads to an understanding of humans as an integral part of the global environment and addresses issues such as population growth, resource usage, pollution management, conservation and sustainability.

The subject is a trans-disciplinary Group 3 (Individual and Societies) and Group 4 (Sciences) subject; students taking this course satisfy the requirements for both groups, allowing for more versatility in the IBDP package.

The course is suitable for those with an environmental interest but does require some scientific ability. A cross-curricular subject, it draws from the Sciences, Geography, Economics, Politics and Sociology and encourages students to look at the 'big picture.' This course complements Geography, Economics, Business, Biology and English.

Course content

Grade 11

- **Environmental value systems** – understanding environmental value systems is a central theme in the course. This topic requires students to identify and reflect on the range of perspectives which may be relevant to environmental issues.
- **Environmental systems and modeling** – examining the functioning of the environment through systems ranging in size from global to local scale. Economic and social systems are considered alongside environmental systems.
- **Human population, carrying capacity and resource use** – this topic considers the nature of human population growth in both the past and the future. The key issue is the nature of the relationship between the size of populations and the supply of resources needed to sustain that population.

The highlight of the Grade 11 year is the four-day trip to Pulau Tioman, in Malaysia. During the trip, the majority of the internally assessed coursework is undertaken.

Grade 12

- **Conservation and biodiversity** – an exploration of the biodiversity existing on the planet, the vulnerability of species and the steps being taken to conserve biodiversity.
- **Pollution management** – a wide range of pollution types are considered with respect to the impacts of pollution and the attempts to monitor and manage pollution levels.
- **Climate change** – as an extension of the work done on pollution, the mechanics and issues of climate change are examined in depth. Students are encouraged to appreciate the variety of often conflicting arguments surrounding the issue.

A field trip to the stunning Semakau landfill/nature reserve is another highlight of the course, showcasing Singapore's world-class solid domestic waste disposal solution.

Skills developed

- planning primary data collection
- conducting laboratory techniques and fieldwork skills
- presenting and analysing primary and secondary data in a report form
- oral and visual presentation skills
- secondary research skills

Assessment

External assessment – 75%

- two written papers

Internal assessment – 25%

- course work consisting of student-designed investigation of the human and ecological systems on Tioman Island.

University courses and careers

Environmental awareness is becoming increasingly important and degrees specialising in environmental science/studies are becoming common in universities. These degrees relate to many career areas and are useful for any student wishing to enter the growing field of environmental impact assessment, environmental law, journalism, resource management, business, land use planning and development, politics and many more. The environmental industry in the UK is a growth sector — over 400,000 people are currently employed in 17,000 environmental corporations which have a combined turnover of over £25b — equal to that of the pharmaceutical and aerospace sectors. The industry is projected to double in size over the next decade in the UK alone.

Group 4 – Sciences

Biology

The biologist's realm is the earth's surface and those thin layers above and below it in which organisms grow, reproduce and die. It is true, astrophysicists look higher and geologists go deeper, but when soft machines are involved we turn to one of the branches of biology for answers.

People develop an interest in biology for all sorts of reasons. The workings of the human body are of immediate relevance, and so many biological matters are topical and receive media coverage. Environmental issues are always in the news, as are medical matters and biotechnology. Biologists are involved in the study of life at all levels, and the application of knowledge in a wide range of contexts.

This course helps students to better understand themselves and their place in the natural world. It allows an in-depth study of a wide range of biological concepts as they apply to biological molecules, cells, organisms, populations and interacting communities.

Course content

SL and HL courses share the core syllabus. HL students study to a far greater depth and breadth.

Core curriculum

- cell biology
- molecular biology
- genetics
- ecology
- evolution and biodiversity
- human physiology

Additional Higher Level topics (AHL)

HL covers each topic in more depth with particular emphasis on:

- nucleic acids
- metabolism, cell respiration and photosynthesis
- plant biology
- genetics and evolution
- animal physiology

Options

Both SL and HL students will study one option during the course. The possible topics are:

- neurobiology and behaviour
- biotechnology and bioinformatics
- ecology and conservation
- human physiology

Field courses

There are compulsory field trips for HL and SL biologists. HL and SL students spend five days on Tioman Island studying coastal, coral reef and rainforest ecosystems. The trips entails a cost to parents.

Skills developed

- research, experimental and personal skills to carry out insightful and ethical investigations
- analytical and evaluative skills
- IT skills
- internationalism and Theory of Knowledge aspects of Biology
- presentation skills

Assessment

External assessment – 80%

- **paper 1** – multiple choice
- **paper 2** – data based question, short and extended response
- **paper 3** – short answer questions on experimental skills and techniques, short and extended response questions from one option

Internal assessment – 20%

- Individual investigation

University courses and careers

Biology not only provides the springboard into 'pure' natural science courses at university, but is also valuable for applied biological sciences such as medicine, pharmacy, biochemistry, veterinary science, agriculture, forestry, marine science, physiotherapy, sports physiology. Many, but not all, university courses for biology expect another science at HL.

Chemistry

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is often 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 is a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science, and serves as useful preparation for employment.

Earth, water, air and fire are often said to be the four classical elements. They have connections with Hinduism and Buddhism. The Greek philosopher Plato was the first to call these entities elements. The study of chemistry has changed dramatically from its origins in the early days of alchemists, who had as their quest the transmutation of common metals into gold. Chemistry has been hugely influential on mankind's development throughout the ages, driving the development of many fundamental aspects of modern life, including, medicines, fuels, armaments, fertilisers, polymers and semiconductors. Despite the exciting and extraordinary development of ideas throughout the history of chemistry, certain things have remained unchanged. Observations remain essential, at the very core of chemistry, and this sometimes requires decisions about what to look for. The scientific processes carried out by the most eminent scientists in the past are the same ones followed by working chemists today and, crucially, are also accessible to students in schools. This is a course that, through practical experience and intellectual argument, enables students the opportunity to delve into the fascinating and sometimes perplexing realms of the nature of light, matter and the Universe.

Course content

Core curriculum

- quantitative chemistry
- atomic structure
- periodicity
- chemical bonding and structure
- energetics
- kinetics
- equilibrium
- acids and bases
- oxidation and reduction
- organic chemistry
- measurement and data processing (including spectroscopic analysis)

Options

Students study one option topic on either energy or medicinal chemistry.

- **energy:** energy sources, fossil fuels, nuclear fusion and fission, solar energy, environmental impact – global warming, electrochemistry, rechargeable batteries and fuel cells (HL only), nuclear fusion and nuclear fission (HL only), photovoltaic and dye-sensitized solar cells (HL only)
- **medicinal chemistry:** pharmaceutical products and drug action, aspirin and penicillin, opiates, pH regulation of the stomach, anti-viral medications, environmental impact of some medications, taxol – a chiral auxiliary case study (HL only), nuclear medicine (HL only), drug detection and analysis (HL only)

Skills developed

The subject trains students to interpret abstract ideas. Starting with the basis of chemistry, an understanding of atomic structure, students build images in their minds that are used to predict and explain the properties of matter. An appreciation of the three-dimensional structure of molecules is essential and in the kinetics and equilibrium topics students learn to visualise models of reaction pathways during dynamic equilibrium. It is a practical subject and students are encouraged to develop the ability to question the validity and reliability of data and appreciate the value of scientific method and reasoning.

Assessment

External assessment – 80%

- **paper 1:** multiple choice – 20%
- **paper 2:** extended answer – 40%
- **paper 3:** option topics and data response – 20%

Internal assessment – 20%

This component occupies about 10 hours of class time and comprises experimental work investigating a research question of your choice.

University courses and careers

Chemistry is essential for students who intend to pursue careers in almost any pure or applied science such as medicine, environmental sciences, biological sciences, engineering, material science and the oil and gas industry. It is also an excellent subject for students intending to do arts or humanities courses at university. The standard level course would be particularly suitable for those students who need some understanding of materials for courses such as 3D arts, Geology, Food, Fashion and even Economics and Business Studies.

Physics

Physicists explore the Universe, with investigations ranging from the distant stars to particles smaller than atoms. As well as having to find facts by observation and experiment, they must also try and discover the laws that govern these facts. Theories are then thought up and tested to explain the laws. The reward is a better understanding of our physical world. Physics is the most fundamental of the sciences, with Quantum Physics and Einstein's General Theory of Relativity providing an explanation for the full breadth of the Universe we observe. Physics can be used to predict how satellites will orbit, when materials will break, how electricity will behave and even explain how the Universe itself began. Physics is used in the home, in transport, computing, medicine, industry, energy production, meteorology, communications and electronics. Physics underpins most of the benefits of modern world in which we live and will hopefully provide some of the solutions to the problems that humanity will face in the future.

Course content

Core curriculum

- **measurement:** uncertainties and errors, vectors and scalars
- **mechanics:** motion, forces, energy, motion in a circle
- **thermal physics:** temperature, heat capacity, latent heat, gas laws
- **waves:** oscillations, reflection, refraction, diffraction, polarisation, standing waves
- **electricity and magnetism:** electric fields, electric circuits, magnetic force and fields
- **circular motion and gravitation:** circular motion, Newton's Law
- **atomic, nuclear and particle physics:** radioactivity, fission and fusion, quantum nature of radiation, energy levels, particle physics and the Standard Model
- **energy production:** fossil and non-fossil power production, greenhouse effect, global warming

Additional Higher Level (AHL)

- **wave phenomena:** simple harmonic motion, resolution, thin-film interference, Doppler effect
- **fields:** gravitational and electric potential, orbital motion
- **electromagnetic induction:** Faraday's and Lenz's law, alternating current, capacitance
- **quantum and nuclear physics:** photoelectric effect, wave-particle duality, Heisenberg uncertainty principle, Schrodinger model of the atom

Options

Students study one option topic in Grade 12. The class will choose from the following:

- **relativity:** time dilation, length contraction, space time diagrams, general relativity
- **engineering physics:** rigid bodies, thermodynamics, fluid dynamics, forced vibration and resonance
- **imaging:** imaging instruments, fibre optics, medical imaging
- **astrophysics:** stellar radiation, stellar evolution, cosmology, stellar processes

Skills developed

Buildings, aircraft, Formula One cars, computers and saucepans all obey the laws of physics. It provides an understanding of how the world around us works. It can supply answers to some important questions in topics such as energy demand and the environment. It will make you more informed on issues such as nuclear power and climate change. As well as learning how to plan experiments and process uncertainties in measurement, you will develop your critical and analytical thinking skills.

Assessment

External assessment – 80%

- **paper 1:** multiple choice – 20%
- **paper 2:** extended answer – 36%
- **paper 3:** option topics and data response – 24%

Internal assessment – 20%

The internal assessment component occupies about 10 hours of class time and comprises experimental work investigating a research question of your choice.

University courses and careers

Physics is used by anyone who discovers, makes or designs. Its emphasis on logical thought develops skills useful in many business,

financial or legal careers, and is helpful to those who work with scientists and engineers. It has applications in daily life, and provides a background understanding of technology in an increasingly technological world.

Sports, Exercise and Health Science (SEHS)

This exciting course is available at both HL and SL. It incorporates the traditional disciplines of anatomy, physiology, biomechanics, psychology and nutrition, which are studied in the context of sport, exercise and health. Students cover a range of core and option topics and carry out practical (experimental) investigations in both laboratory and field settings. This provides students with the opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyse human performance.

The internal assessment is based upon practical experimental investigations and not physical performance. This course suits students who like to apply science to sport.

Course content

SL and HL courses share the core syllabus. HL students study to a far greater depth and breadth.

Core curriculum

- anatomy
- exercise physiology
- energy systems
- movement analysis
- skill in sport
- measurement and evaluation of human performance

Additional Higher Level topics (AHL)

HL covers each topic in more depth with particular emphasis on:

- further anatomy
- the endocrine system
- fatigue
- friction and drag
- skill acquisition
- genetics
- exercise and immunity

Options

Both SL and HL students will study two options during the course. The possible topics are:

- optimising physiological performance
- psychology in sport
- physical activity and health
- nutrition for sport and exercise

Full syllabus details will be available on the website as soon as they are published by IBO. For further information, please contact **Vicki Hill** (vhi@gapps.uwcsea.edu.sg) or **Denise Stevenson** (dst@gapps.uwcsea.edu.sg)

Skills developed

The aims of the course are to:

- acquire knowledge and understanding to apply scientific principles in relation to sport
- enable students to critically analyse human performance
- encourage students to question data and appreciate the value of scientific method
- promote internationalism and ethics by considering sport and health relative to the individual and global context

Assessment

External assessment – 80%

- three written papers

Internal assessment – 20%

- practical experimental investigations

University courses and careers

A dynamic approach to the science related skills of research and critical analysis will be a valuable asset for any university course and will begin to prepare students if they are considering studying sports science at university. This discipline can also effectively complement other science subjects. Careers for sports science graduates include sports science research, sport and leisure management, sports media, teaching, coaching, and marketing.

Design Technology

Design Technology aims to develop internationally minded people whose enhanced understanding of design and the technological world can facilitate our shared guardianship of the planet and create a better world. This course is aimed at students who are interested in solving problems through investigation, applying knowledge and design principles to develop and manufacture optimum solutions. The design cycle is at the core of the course and students use this process in practical investigative work as well as in the theory.

Design Technology interfaces well between the sciences and the arts, owing its knowledge base to the former and its emphasis on creative flair to the latter. The creative tension between theory and practice is what characterizes design technology within the Diploma Programme experimental science. Design Technology achieves a high level of design literacy by enabling students to develop critical-thinking and design skills, which they can apply in a practical context. While designing may take various forms, it will involve the selective application of knowledge within an ethical framework. A high level of commitment and motivation is essential for success in this creative and demanding course.

Course content

SL and HL courses share the core syllabus. Core syllabus component covers the following topics:

- human factors and ergonomics
- resource management and sustainable production
- modelling
- raw material to final product
- innovation and design
- classic design

Additional topics (HL students only)

- user-centered design (UCD)
- sustainability
- innovation and markets
- commercial production

Practical work

Over the period of the course, all students (SL and HL) will work on teacher directed activities, a Design Project and the Group 4 project.

Skills developed

- creative thinking and problem solving
- investigation, analysis, design, realisation and critical evaluation
- communication through the use of IT and graphical techniques
- making skills through working with materials, machinery and tools
- time management, organisation and planning

Assessment

SL external assessment – 60%

- **paper 1:** 30 multiple choice questions on the core (1 hours) – 30%
- **paper 2:** (1 hr 30 minutes) – 30%
 - section A: one data-based question and several short answer questions on the core (all compulsory)
 - section B: one extended response question on the core (from a choice of three)

HL external assessment – 60%

- **paper 1:** 30 multiple choice questions on the core (1 hours) – 20%
- **paper 2:** (1 hr 30 minutes) – 20%
 - section A: one data-based question and several short answer questions on the core (all compulsory)
 - section B: one extended response question on the core (from a choice of three)
- **paper 3:** short-answer and extended response questions on the additional higher level topics (all compulsory) (1 hr 30 minutes) – 20%

Internal assessment, Group 4 and Design Project – 40%

The internal assessment, Group 4 and Design Project are an integral part of the course and is compulsory for both SL and HL students. All enable 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. The internal assessments are woven into normal classroom teaching with a range of activities conducted through the course.

The internal assessment requirements at SL and at HL are different. The first four assessment criteria (A-D) are common between SL and HL, however HL design projects have additional requirements, which are assessed using two additional criteria (E and F). Below are the assessments criterion for internal assessment.

- **criterion A:** Analysis of a design opportunity
- **criterion B:** Conceptual design
- **criterion C:** Development of a detailed design
- **criterion D:** Testing and evaluation
- **criterion E:** Commercial production
- **criterion F:** Marketing strategies

University courses and careers

Design Technology is an excellent preparation for tertiary level courses in engineering (such as structural, mechanical, aerospace, automotive, electrical and civil) and architecture, product design, industrial design and technology.

Computer Science

Students with an interest in pursuing any kind of career with computers or in developing their analytical problem solving skills should consider Computer Science. It is a practical, yet academically rigorous subject offering students a detailed view of how computers work and how systems can be developed (programmed) to work on them. Successful computer systems result from a systematic approach to problem solving along with a sound technical understanding of how computers operate. The aim of the course is to develop both of these aspects of understanding. While learning to programme in Java is a significant element of the course, the primary purpose of this course is not to be a vocational programming course but to allow complex theoretical concepts to be explored practically and experimentally.

Course content

At both SL and HL the course includes units on:

- system fundamentals
- planning and system installation
- system design basics
- computer organisation
- networks
- computational thinking, problem-solving and programming
- object oriented programming (option D)

In addition, HL students study units on:

- abstract data structures and algorithms including: static data structures,
- dynamic data structures, objects, recursion and algorithm evaluation
- resource management
- control

During Grade 12 both HL and SL students undertake a significant project, using programming skills and theory studied in the course. By developing their own application in Java to solve a problem, students get a chance to demonstrate their creativity and programming skills.

Skills developed

- logical problem solving
- project management
- advanced Java programming

Assessment

SL

- **External assessment – 70%**

Two papers examining theory and algorithms through diagrams, pseudocode and Java.

- **Internal assessment – 30%**

Made up of a single piece of coursework which involves producing and documenting an application with significant programming aspects.

HL

- **External assessment – 80%**

Three papers examining theory, algorithms through written responses, diagrams, pseudocode, Java and application of concepts to an pre- studied case study.

- **Internal assessment – 20%**

Made up of a single piece of coursework which involves producing and documenting an application with significant programming aspects.

University courses and careers

This course is aimed at students who are interested in pursuing careers in the computing industry and wish to study computer science, hardware engineering or software engineering courses at university. It also complements many engineering, science, mathematical, business and management courses.

Group 5 — Mathematics

Overview of Mathematics in the IBDP

There are four Mathematics courses within the IB Diploma Programme. At HL, there is Mathematics and Further Mathematics and at SL, Mathematical Studies and Mathematics. These courses are designed to meet the needs of students with differing abilities and different requirements for higher education.

In addition to honestly assessing their child's interest and performance in Mathematics, parents are advised to consider carefully, with their child, which country, which university and which course they are contemplating so that they can determine the most appropriate IBDP course for their child. A number of countries, and some universities in certain countries, restrict entry to courses based on the level of studied in the IBDP.

Mathematics SL

This course is designed to provide mathematical techniques and methods for those needing substantial mathematical skills in other subject areas. In order to gain success in this course a high level of mathematical ability is required as well as sustained effort and commitment. It is not an easy option.

Course content

Grade 11

The syllabus is a subset of the HL course and comprises:

- arithmetic and geometric sequences and series
- theory of logarithms
- the linear function
- the quadratic function
- calculus of polynomials
- techniques of differentiation
- calculus of exponential and logarithmic functions

Grade 12

- applications of the integral calculus – areas, volumes, kinematics
- trigonometry, circular functions and the calculus of these
- statistics and probability
- regression and correlation
- vector geometry
- binomial expansions

Skills developed

All mathematics courses develop the following skills at the appropriate level for that course:

- manipulative algebraic skills
- facility with mathematical software and technology via the graph drawing calculator
- discrimination between methods of solution to a given problem in order to determine the most efficient
- applicability of the subject to other disciplines

Assessment

External assessment – 80%

- **paper 1** (1 hour 30 minutes) – calculators not permitted
- **paper 2** (1 hour 30 minutes) – graphical calculator required

Internal assessment – 20%

Students will be required to complete a Mathematical Exploration as their internal assessment. The Mathematical Exploration is a

written report in an area of mathematics of the student's choosing and is assessed based on the student's ability to communicate mathematically and to reflect on what has been done.

University courses and careers

Those requiring this level of mathematics include scientific and technical disciplines. This course is suitable for those wishing to study engineering in the US. Some countries require Mathematics SL for commerce and business courses.

Mathematics HL

This course is for students who have already demonstrated a high degree of mathematical insight and competence. It is suitable for those who have performed well in an additional mathematics course or extremely well in CIM, or have attained similar success from an equivalent background.

Although modern in approach and content, a sound 'traditional' background is a necessary basis; a main proviso is that the student has genuine interest and ability in the subject and is capable of meeting the demands of an extremely large workload.

Course content

Grade 11

- sequences and series
- mathematical induction
- algebraic techniques – logarithms, binomial expansions, functions and equations
- calculus of polynomial functions – fundamental theorem of calculus
- techniques of differentiation – chain, product and quotient rules
- exponential and logarithmic functions
- circular functions and trigonometry
- techniques of integration

Grade 12

- vector geometry
- complex numbers
- probability and statistics
- an option topic to be decided upon by the department

Skills developed

All mathematics courses seek to develop the following skills at the appropriate level for that course:

- manipulative algebraic skills
- facility with mathematical software and technology via the graph drawing calculator
- discrimination between methods of solution to a given problem in order to determine the most efficient
- applicability of the subject to other disciplines

Assessment

External assessment – 80%

- **paper 1** (2 hours) – calculators not permitted
- **paper 2** (2 hours) – graphical calculator required
- **paper 3** (1 hour) – graphical calculator required

Internal assessment – 20%

Students being examined will be required to complete a Mathematical Exploration as their internal assessment. The Mathematical Exploration is a written report in an area of mathematics of the student's choosing and is assessed based on the student's ability to communicate mathematically and to reflect on what has been done.

University courses and careers

Those courses requiring this level of mathematics include mathematics, pure sciences, medicine and engineering.

Mathematical Studies (SL)

This course is designed for students whose proposed university course does not lie in a field where mathematical skills and techniques are likely to be needed. It is, however, a demanding course in its own right and requires commitment and a sound level of mathematical facility from the student.

Course content

Grade 11

- arithmetic and geometric sequences and series
- introduction to the graphing calculator
- functions – notation and manipulation
- statistics – regression, correlation, chi squared test of independence
- set theory

Grade 12

- logic
- probability
- introductory calculus
- exponential functions
- financial mathematics

Skills developed

All mathematics courses seek to develop the following skills at the appropriate level for that course:

- manipulative algebraic skills
- facility with mathematical software and technology via the graph drawing calculator
- discrimination between methods of solution to a given problem in order to determine the most efficient
- applicability of the subject to other disciplines

Assessment

External assessment – 80%

- **paper 1** (1 hour 30 minutes) – graphical calculator required
- **paper 2** (1 hour 30 minutes) – graphical calculator required

Internal assessment – 20%

An extended project on an application of Mathematics. This begins in Grade 11 and updated throughout the first term of the Grade 12.

University courses and careers

Mathematical Studies is for those students who do not anticipate a need for rigorous mathematics in their future studies. Information should be sought for specific courses; please note that Germany, Switzerland and Ireland may not recognise this course as part of the IBDP for entry to their universities.

Further Mathematics (HL)

This course comprises the five option topics of HL in addition to a module on Euclidean geometry. The course is no more difficult than Mathematics HL; rather, it gives the student the greater breadth in the subject that may be advantageous in future study. It is highly rigorous, intellectually stimulating and requires a great deal of commitment on the part of the student.

It can be studied either within the diploma (as a selection from Group 6) or extra to the diploma as a seventh subject that is individually certified.

Course content

Grade 11 and 12 course content order was not set at the time of publication.

- discrete mathematics, comprising graph theory and number theory
- calculus
- linear algebra
- sets relations and groups
- geometry
- statistics and probability

Skills developed

All mathematics courses seek to develop the following skills at the appropriate level for that course:

- manipulative algebraic skills
- facility with mathematical software and technology via the graph drawing calculator
- discrimination between methods of solution to a given problem in order to determine the most efficient
- applicability of the subject to other disciplines

Assessment

External assessment – 100%

- **paper 1** (2 hour 30 minutes) – graphical calculator required
- **paper 2** (2 hour 30 minutes) – graphical calculator required

University courses and careers

Further Mathematics is suited to those who are interested and committed mathematicians and/or considering university courses with a substantial mathematical content. Students who intend to apply for science or engineering degrees at a prestigious university should also consider this course.

Group 6 – The Arts

Dance

Dance is a vibrant and stimulating subject that integrates physical and intellectual knowledge. The active nature of the course allows students to work intensely across a variety of different dance styles embracing traditions and world dance cultures. The written components encourage students to explore familiar and unfamiliar dance forms and understand the dynamic and changing nature of the arts. Dance experience is not necessary at standard level just an enthusiasm and commitment to Dance and a willingness to take risks.

Students will develop their physical, intellectual and emotional skills through participation in workshops and studying dance theories.

Course content

The coursework components, performance and composition, are developed continuously through Grades 11 and 12 culminating in the final submission of portfolios in February of Grade 12.

Grade 11

- choreography
- anatomy and dance physiology
- performance skills
- contemporary
- workshops in a variety of styles including Hip Hop and Lyrical
- dance history
- dance analysis of works with cultural links
- independent dance style
- performance opportunities

Grade 12

- composition
- performance in two contrasting styles
- world dance investigation
- learning communication and leadership skills
- dance analysis
- performance exam
- dance workshops
- theatre trips

Skills developed

Dance enables candidates to develop skills, knowledge and understanding of dance as choreographer, performer and critics through:

- applying and adapting a wide range of skills and techniques effectively in performing and choreographing dance including the ability to improve
- creating dances for a range of purpose and in response to different stimuli
- developing and ability to analyse, evaluate and appreciate dance

Candidates also appreciate the contributions of dance to their personal and social health, fitness and wellbeing and be aware of the range of opportunities and pathways available in dance.

Assessment

External assessment – 60%

- composition and analysis 35% HL (practical and written)
- composition and analysis 40% SL (practical and written)
- world dance investigation 25% HL (written)
- world dance investigation 20% SL (written)

Internal assessment – 40%

- performance 40% HL (practical)
- performance 40% SL (practical)

University courses and careers

Students who have studied this course have gone on to take courses in dance, theatre, teaching, arts management, marketing, public relations, law, medicine, business studies, languages, occupational therapy, arts therapy, psychology, history, psychology, communication studies and many more.

Film

The Film course allows students to explore film as a powerful communication medium and an art form. The course aims to develop students' skills so that they become adept in both interpreting and making film texts. Through the study and analysis of film texts and exercises in filmmaking, the course explores film history, theory and language. To achieve an international understanding within the world of film, students are taught to consider film texts, theories and ideas from different individuals, nations and cultures. Throughout, students also learn and exercise the fundamentals of film production.

At the core lies a concern with clarity of understanding, critical thinking, reflective analysis, effective involvement and imaginative synthesis that is achieved through practical engagement in the art and craft of film.

Course content

- **Part 1** – textual analysis
- **Part 2** – film theory and history
- **Part 3** – creative process — techniques and organisation of production

From the very start, these three parts are taught concurrently so that students learn through both academic study and practical, creative filmmaking.

Grade 11

- the concept and origins of film
- the silent era
- Soviet cinema and the art of montage
- film as propaganda
- the impact of sound
- documentary filmmaking
- German Expressionism, Surrealism
- French New Wave, Italian Neorealism
- Hollywood: the studio system, 'golden age' and 'new Hollywood'
- World Cinema including Spain, Hong Kong, Japan and France amongst others
- genre studies
- understanding of film techniques and processes
- acquisition of film-making skills and implementation into productions

Grade 12

Internal and external assessment focus based on independent study:

- **Textual Analysis** – a 1750 word analysis of an extract from a prescribed film, based on a chosen extract (lasting no more than 5 mins) from that film. Students consider the cultural context of the film and a variety of film elements.
- **Comparative Study** – a recorded multimedia comparative study. Students carry out research into a chosen area of film focus, identifying and comparing two films from within that area and presenting their discoveries as a recorded multimedia comparative study lasting a maximum of 10 minutes.

- **Film Portfolio** – students at SL and HL undertake a variety of film-making exercises in three film production roles. They acquire and develop practical skills and techniques through participation in film exercises, experiments and the creation of at least one complete film. They submit a written portfolio (max 9 pages, 3 page max per production role), and a film reel (9 mins max; 3 mins per production role, including one complete 3 minute film).
- **Collaborative film project** (HL only) – students at HL work collaboratively to make one additional complete film of 7 minutes max length. Students submit the film, and a 2000 word project report.

Skills developed

- creative expression
- media literacy, analysis and interpretation
- interpersonal awareness
- organisation and planning
- problem solving
- research
- technical skills
- visual and critical awareness
- working to deadlines
- reflection and evaluation

Assessment

Assessment	HL	SL
Textual Analysis	20%	30%
Comparative Study	20%	30%
Film Portfolio	25%	40%
Collaborative Film Project	35%	–

University courses and careers

Film degrees are offered in leading universities around the world and lead to a wide range of careers in:

- communications
- professional writing and screenwriting
- filmmaking and television journalism
- production management
- advertising and marketing
- field research
- sound and special effects

Music

The study of Music enables students to recognise and discuss musical elements found in a diverse range of musical genres, thus developing greater sensitivity and curiosity in the music that surrounds us. Students also develop an appreciation of the way in which music connects with other areas of knowledge.

Course content

The coursework components, performance and composition, are developed continuously through Grades 11 and 12 culminating in the final submission of portfolios in February of Grade 12.

HL only

- **solo performance:** vocal or instrumental (20 minutes)
- **composition:** three compositions to be notated and recorded

SL only

Students select one of the following:

- **solo performance:** vocal or instrumental (15 minutes)
- **composition:** two compositions to be notated and recorded
- **group performance:** membership of an ensemble including at least two public performances

Grade 11

- **musical analysis and perception:** study of a diverse range of music including; Western art music from the late renaissance to the present day and world music
- **musical links investigation:** 2,000 words on music from two different genres

Grade 12

- **musical analysis and perception:** study of two prescribed works
- **musical analysis and perception:** further study of a diverse range of music

Skills developed

- instrumental/vocal skills through performing in a variety of contexts
- creativity through the study of composition
- knowledge of musical styles and composition
- aural analysis skills through the study of music from diverse cultures and traditions
- an understanding of recording techniques
- ability to use music software and other music technology
- research skills and musical interests through the musical links investigation

Assessment

External assessment (HL and SL) – 50%

- listening paper – 30%
- musical investigation – 20%

Internal assessment (HL) – 50%

- solo performance – 25%
- composition – 25%

Internal assessment (SL) – 50%

One of the following:

- solo performance
- composition
- group performance

University courses and careers

An excellent foundation for further study in musicology, music performance, arts and music management, the recording industry and media. Graduating students have typically gone on to study performance, music technology or composition at conservatoire or university, or have combined music with other areas in order to follow courses in arts and music management.

Theatre

Theatre is a dynamic and stimulating course that looks at all aspects of theatre. It is essentially a practical subject in that all theory is investigated by practical engagement. This active nature of the course makes it both exciting and challenging. Theatre students soon develop a passion and an intense commitment to the course, a commitment that brings both academic rewards and a sense of achievement.

Through the course students develop their independent learning skills through research, critical thinking and analytical skills through a study of practitioners and theorists, collaboration, negotiation and confidence skills through group devising and presentations, cultural awareness and empathy through study of world theatre.

Course content

The theatre syllabus comprises three areas: Theatre in Context, Theatre Processes, and Performing Theatre.

Grade 11

- ancient Greek theatre
- physical comedy
- political theatre
- introduction to devising techniques
- world theatre traditions
- design
- performance skills
- world texts and traditions
- theatre production
- theatre of the oppressed

Grade 12

- collaborative project
- research presentation
- theatre theorists – Solo Theatre Piece (HL only)
- exploring performance from a directorial perspective – Director's Notebook

Skills developed

During the course students:

- perform before an audience
- crew a production
- experience what the chief artists and craftsmen in the theatre do
- investigate performance theory and forms of theatre other than the western model
- work in an ensemble
- write and direct a piece of theatre
- research world theatre traditions
- learn to communicate effectively using signs and symbols other than the spoken word
- see and review a number of live professional productions and study the subject from an international perspective in terms of texts and traditions
- learn presentation skills
- learn collaboration and negotiation skills

Trip

We take a Theatre curriculum trip every two years. This is four days for Grade 12 students (Thursday afternoon to Sunday afternoon) and three days for Grade 11 students (Friday afternoon to Sunday afternoon). The trip allows us to prepare in detail for an assessment (Research Presentation) with Grade 12 students. It also facilitates preparation for the IB Theatre Showcase. This is a part of the curriculum that allows students to experience making performance – a requirement of the course. The cost of the trip is approximately S\$480-500. It happens in November, exact dates will be confirmed and shared as early as possible. On the years we do not go on this trip, there will be a day off timetable to work on the Research Presentation for Grade 12 students and a trip for those students involved in the Grade 11 and 12 co-curricular theatre production in Term 1 (open

only to IB Theatre students). The next trip for all Theatre students is planned for November 2019. The next trip for students involved in the Grade 11 and 12 co-curricular theatre production is November 2018.

Assessment

SL

External assessment – 65%

- Director's Notebook – 35%
- research presentation – 30%

Internal assessment – 35%

- collaborative project – 35%

HL

External assessment – 75%

- solo theatre – 35%
- Director's Notebook – 20%
- research presentation – 20%

Internal assessment – 25%

- collaborative project – 25%

University courses and careers

Students who have taken this subject in recent years have gone on to follow courses in international relations, law, psychology, political studies, human resources, public relations, event management, business studies, hotel management, English and drama, media and communications studies, history, engineering and, of course, performance arts and theatre.

Visual Arts

"The visual arts are an integral part of everyday life, permeating all levels of human creativity, expression, communication and understanding. They range from traditional forms embedded in local and wider communities, societies and cultures, to the varied and divergent practices associated with new, emerging and contemporary forms of visual language. They may have sociopolitical impact as well as ritual, spiritual, decorative and functional value; they can be persuasive and subversive in some instances, enlightening and uplifting in others. We celebrate the visual arts not only in the way we create images and objects, but also in the way we appreciate, enjoy, respect and respond to the practices of art-making by others from around the world. Theories and practices in the visual arts are dynamic and ever-changing, and connect many areas of knowledge and human experience through individual and collaborative expression, creative production and critical interpretation." IBO 2014

IB Visual Arts embraces a wide variety of expressive approaches. Students learn to investigate deeply and locate themselves within a historical/cultural context and to extend their use of materials and concepts beyond traditional boundaries. Both intellectual and emotional learning are developed through the study of Visual Art.

While students are introduced to advanced processes and materials, the media they choose to use throughout the two years of the course is at their discretion. Through the investigation and experimental phases students discover the most appropriate media and approach. The course rapidly becomes very personal.

Course content

The course encompasses a wide range of activities designed to encourage students to explore and discover new possibilities in the visual arts. Students develop ideas and themes for their studio work and refine their skills in the investigation workbook. New art

processes and concepts, the use of media, and learning research techniques that yield many possibilities for studio works are the driving force for work in the investigation workbook. Gallery visits, drawings, experiments with materials and approaches, and historical and critical analysis are included. Divergent and convergent strategies are employed.

In the studio, students develop an exciting and highly personal portfolio of work in preparation for their exam/show. The portfolio of work serves a second purpose for those who choose to attend post-secondary education in the visual arts: it is their university admissions portfolio.

Skills developed

- visual literacy and observation skills
- visual research and in-depth investigation
- the ability to experiment with a range of visual solutions for communicating their intentions
- critical analysis of artwork
- to consider the social, historical, geographical and cultural influences on art

Assessment

Both the studio work and the investigation workbook are assessed frequently throughout the course so that students can track their positive progress. Starting this year, IBO has added a short comparative study component. At the end of the course the work of the student will be both externally and internally assessed for the purpose of assigning the final mark.

External assessment – 60%

- **Comparative Study** – 20%
Analyse and compare different artworks by different artists. Investigate purpose, technique and results.
- **Visual Arts Journal** (process portfolio) – 40%
The investigation workbook is a journal of art-making, engagement with different media, techniques and processes involved in making their own body of works. The iVA journal is where ideas are recorded and refined in preparation for the studio work. The journal is internally assessed with the following criteria:
 - skills, processes and techniques: practicing technical skills that will later help the studio work
 - critical studies: observation, reflection and analysing the work of others as well as your own work
 - planning: develop ideas through compositional studies, colour and value studies and the like
 - reflecting on the work of one's own and of others to refine personal studio work
 - presentation and use of specialist art vocabulary to a progressively more advanced level

Internal assessment – 40%

Studio work: an exhibition with a short written rationale

Students create a portfolio of studio works over the two years and display the more resolved artworks in a show. 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. Students reflect on changes made during the process of creation and provide a rationale for the decisions regarding the selection of certain pieces for exhibition.

The studio work is assessed according to the following criteria:

- self-direction and independent judgment while extending personal boundaries

- sensitivity to materials chosen and ability to review work as it progresses
- understanding the ideas and techniques that underpin artistic expression
- technical skill
- thoughtful development of ideas and strategies for expression
- confidence and inventiveness
- personally relevant artwork that show cultural and historical awareness

University courses and careers

The course is useful for those wishing to pursue tertiary education in the following fields: fine art, art history, arts administration, architecture, interior design, theatre design, graphic design, photography, fashion, textiles and jewellery design, ceramics and industrial design and television production. However, the course is also suitable for those who may not wish to pursue an art-related career, but would like to gain deeper appreciation and understanding of the subject as well as the ability to discover multiple solutions for any given problem.

IBDP core requirements

Creativity, Activity and Service (CAS)

Students are involved in CAS for the whole of their IB Diploma and ideally spend 3-4 hours a week engaged in extracurricular pursuits. For most CAS experiences an adult supervisor will record attendance and evaluate the student's contribution. CAS aims to challenge and extend students beyond the academic curriculum, and to develop a spirit of discovery, skills and interests. Many experiences involve a benefit to the community and encourage students to consider global issues and ethical outcomes of their participation.

CAS experiences can occur within the College or outside. Examples of creativity are working for college publications, drama productions, playing in music ensembles, as well as initiating and organising sports coaching. Activity includes playing sports and expeditions. All G11 students are involved in a year of Local Service and most also do Service for Project Week. Service arising out of the academic curriculum and using skills learned in the particular subject, is encouraged. All students must also be involved in a project of their own initiation, covering more than one aspect of CAS, which follows a set procedure and demonstrates reflection at each step.

Students have a CAS Advisor, who visits mentor groups, and interviews students at least three times during the course. Students reflect on their CAS experiences using the college online management system. These, along with supervisor evaluations, serve as evidence for the seven learning outcomes, to be demonstrated by the end of the diploma course. The CAS records are also used by mentors and University Advisors as an important source of information for writing references. Graduation from UWCSEA and the IB Diploma are withheld if CAS requirements are not fulfilled.

Extended Essay

A part of the Diploma Core, the Extended Essay is an independent research project where students seek to investigate a research question, engage in critical research, and learn the skills required to partake in an in-depth academic exploration. Their question is generated from an area of interest and passion they discover during their study of IB subjects. Students can choose to specialise in just one of their subjects for the essay or, if they choose the World Studies option, they can write an interdisciplinary paper that connects two or more of their subjects. With the help of a teacher supervisor, students develop critical thinking and research skills in order to produce an academic paper of up to 4,000 words. At the conclusion of the process, students will have learned to use academic research databases, make critical use of primary and secondary sources, as well as be able to format an academic research essay.

Past experience has shown that the majority of students derive intense satisfaction from the completion of a very thorough, personal piece of research that is excellent preparation for the demands of university level coursework.

Theory of Knowledge (ToK)

The Theory of Knowledge (ToK) aims to provide a grounding in critical and analytical thinking so that students can assess how certain they can be of the knowledge they acquire in the different subject areas of the IBDP, but also how can they best assess the processes of knowledge production in the individual disciplines. As a core subject, ToK provides a strong link between the practical CAS experiences as well as the formal research undertaken in the extended essay. It also aims to show the links between the subjects so that the key skills of synthesis can be developed in order to help our students become

more holistic learners. It is a fundamental part of the IB approach and thus a required course for all students.

The course, which runs through Grade 11 until mid-term 2 in Grade 12, is composed of weekly classes and ToK Mini Week, when students attend lectures and spend three days exploring the complexity of knowledge issues.

Course content

The course looks at the ways in which we acquire knowledge and the knowledge issues (e.g., reliability, relevance, evidence, etc.) involved in the IBDP subject areas, as well as in areas such as ethics, law, politics and religion. It also looks at other influences on our understanding of the world, such as the media or our different cultural backgrounds.

Skills developed

Discussion is in the focus of the course and stimuli come from a wide variety of topics. This allows for development of debating skills, and for appreciation of alternative points of view. Students gradually develop the ability to build complex arguments centred around knowledge issues. They learn how to analyse and critically assess different knowledge systems and through the processes of evaluation and synthesis, gain the understanding of the interconnectedness of these. In order to prepare for the assessment of the ToK course, students will enhance their research skills, presenting skills as well as writing skills.

A presentation and an essay selected from titles prescribed by the IB and advised on by ToK staff form the assessment as detailed below:

Assessment

External assessment – 67%

Essay of 1,600 words on a IB Prescribed Title written during Grade 12 in Term 1. Two examples from the 2018 essay titles:

- *We know with confidence only when we know little; with knowledge doubt increases* (adapted from JW von Goethe). Discuss this statement with reference to two areas of knowledge.
- *Robust knowledge requires both consensus and disagreement*. Discuss this claim with reference to two areas of knowledge.

Internal assessment – 33%

Presentation on a Knowledge Issue of the student's choice at the end of Grade 11. Two typical examples:

- *Stem research – How far do ethical considerations limit the pursuit of scientific research?*
- *Picasso: Portrait of Gertrude Stein – Does emotion or reason make for better aesthetic judgments in the Arts?*

Award of bonus points for the Extended Essay and ToK

		Theory of Knowledge				
		A	B	C	D	E
Extended Essay	A	3	3	2	2	Failing condition
	B	3	2	2	1	
	C	2	2	1	0	
	D	2	1	0	0	
	E	Failing condition				

Up to three bonus IBDP points are awarded according to the combined standard of a student's ToK and Extended Essay. ToK and Extended Essay are each awarded a grade from A to E, and bonus points are calculated from the matrix above.

For example, a candidate who achieves grade B for the Extended Essay and grade C for their ToK will be awarded two bonus points. Attaining a grade 'E' in either the Extended Essay or Theory of Knowledge is considered a 'failing condition' and the diploma is not awarded.

University courses and careers

The academic rigour, breadth of topics and level of abstraction that characterise ToK make it a great introductory course for any university study.

Homework and assessment

The purposes of homework are:

1. **Review:** to consolidate, rehearse or practice work done in class. Ideally review homework is set for that night. Examples:
 - reading
 - key word lists
 - highlighting keywords in text
 - puzzles; crosswords and word searches
 - summary table/questions
 - memory/mind maps
 - categorising information
 - prioritising information
2. **Independent, creative or research tasks:** to provide students with the opportunity to be more creative, reflective and evaluative. Tasks should be set with at the very least two nights' completion time so that students can structure their homework time around their activity/rehearsal schedules. Examples:
 - notes/record of information independently researched
 - learning/memorising vocabulary, facts, script
 - reading and comprehension
 - essay
 - laboratory report
 - art masterpiece
 - creative writing
 - research homework

Weekly homework allocation guidelines

All students are expected to devote approximately 12 hours and 45 minutes per week to their academic studies outside class (for Diploma students, this equates to 2 hours per IB subject plus 45 minutes for TOK).

Coursework/holidays and revision

Assessed coursework and revision replaces homework rather than being set in addition to it.

Homework set during the last week of term for submission after the holiday should not be more than the normal weekly amount.

Timing and deadlines

All students are expected to abide by mutually agreed deadlines, unless there are genuine extenuating circumstances.

Teachers are sensitive to the demands on the students in the whole college environment and are receptive to student negotiation in advance of a deadline with regard to amount of homework set and the deadline for completion. Students involved in performances, concerts etc, can negotiate sensible extensions, but must do so before they miss a deadline.

Homework set is not required to be submitted the next day.

Marking and assessment of homework

All significant homework tasks should receive feedback in order to motivate and guide students.

Students are made aware of the assessment criteria to be applied to the assignment, and assessed work with feedback is returned in a reasonable time to have allowed assessment of the work of the whole class.

High School Academic structure (2017/2018)

Principal
 Vice Principal–Curriculum
 Vice Principal/IB Coordinator
 Vice Principal–Grade 9 and Grade 10
 Vice Principal–Grade 11 and Grade 12

Rebecca Butterworth
 Pippa Haley
 David White
 Gary Seston
 Linsey Lawrence

Group	Subject	Head of Department	
1 and 2: Languages	English	Damian Ballantine	
	English as an Additional Language (EAL)	Andrew Denney	
	French	Michele Pirson	
	German	Steffen Heil (teacher)	
	Spanish	Vicky Berman	
	Dutch	Hans Schellekens (teacher)	
	Chinese	Chen Draper	
	Japanese	Fukiko Ishikawa (teacher)	
	Korean	Mi Sook Park (teacher)	
	Hindi	Anu Ruhil (teacher)	
	School Supported Self-Taught Languages (SSSTA)	Anu Ruhil	
	3: Individuals and Society	Economics	Steve Vorster
		Business	Phil Woolrich
		Geography	Daniel Orr
Global Politics		Jane Hirons	
History		Tim Davies	
Philosophy		Althea Besa	
Psychology		Jane Graham	
Environmental Systems and Society (ESS)		Steven Rowcliffe	
4: Sciences		Biology	Soula Walters
	Chemistry	Rachel Ingram	
	Physics	Jason Haywood	
	Environmental Systems and Society (ESS)	Steven Rowcliffe	
	Design Technology	Carl Waugh	
	Sports, Exercise and Health Science (SEHS)	Vicky Hill	
	Computer Science	Stephen Potter	
5: Mathematics	Mathematics	Julie Dale	
6: The Arts	Dance	Lucia Cordani (teacher)	
	Film	Irene Malone	
	Music	Adrian Hill	
	Theatre (Drama)	Neil Keating	
	Visual Art	John Widder	
IB Core	Theory of Knowledge (ToK)	Anna Hammonds	
	Extended Essay (EE)	Shannon Lane	
	Creativity, Activity and Service (CAS)	Corinne Carter and Richard Hambleton	
	Service	Frankie Meehan	
	Learning Support Coordinator	Simon Beesley	
	IB Examination officer	Myra Martin	

Contact information for staff can be found in the Staff Directory on the College website.