



# **THE ACADEMIC PROGRAMME**

**2016-2017**

**From the  
DIRECTOR OF STUDIES**

## Academic Programme 2016 - 2017

In the main part of this Academic Programme handbook you will find descriptions of all the courses we offer. The following notes are to help you think about your initial subject choices and to enable you to make some academic preparations before you come. Once you have made your choices, please complete the online course selection.

### The International Baccalaureate Diploma

The International Baccalaureate (I.B.) Diploma programme is a comprehensive two-year pre-university programme which has academic rigour, breadth and coherency. It has been designed to meet the standards of university entry requirements world-wide. Since 1970, when it was introduced, students holding the I.B. Diploma have been accepted at over 800 universities in countries all around the world.

The curriculum, currently adopted by over 2300 schools in about 140 countries, is specifically designed for international use and is assessed by an international team of examiners. This curriculum requires students to take courses chosen from a wide range of the subject areas indicated by the Groups below. These courses, except where indicated otherwise, may be studied at either Higher Level (HL) or Standard Level (SL). The subjects currently offered in the I.B. Programme at Li Po Chun UWC are:

Subject Area	Description
Group 1, First Language	A <u>Literature</u> course or a <u>Language &amp; Literature</u> course in your mother tongue, or best language, offered at HL & SL in Chinese, English, or Spanish, or a school-supported "self-taught" <u>Literature</u> course in your mother tongue or native/near native language (other than the languages mentioned).
Group 2, Acquired Language	The study of a second language at a range of levels. English, French, Mandarin, Spanish
Group 3, Individuals & Societies	History, Economics, Geography, Business & Management Studies (SL only), Global Politics
Group 3/4	Environmental Systems & Societies (SL only)
Group 4, Sciences	Biology, Chemistry, Physics
Group 5, Mathematics	Mathematics (HL or SL), Further Maths (HL only), Mathematical Studies (SL only)
Group 6, Arts	Theatre, Visual Arts

Subjects not mentioned in the table above are NOT OFFERED currently at Li Po Chun United World College. **Students must select 3 Higher Level (HL) and 3 Standard Level (SL) courses.**

Note also that students are only allowed to take a maximum of two courses that are only offered at Standard Level (SL only) at the college, and preferably just one SL only course. This is to prevent students having difficulty switching subjects if they find one or more of their Higher Level subjects too hard.

Students must select one subject from each of the first five groups, though a student may take a second Group 1 subject in place of a Group 2 subject. The sixth subject could be from Group 6. Alternatively a third Language, a second Individuals and Societies subject, or a second Science course may be studied. Students will not be permitted to take more than six subjects. Environmental Systems and Societies counts for both Group 3 and/or

Group 4. Studying Environmental Systems and Societies for both a Group 3 and Group 4 allows a student to study two Group 6 subjects in their Diploma.

Each subject is graded on a scale from 7 (excellent) to 1 (very poor). Although the major assessment is the examination session in May of the second year, a wide variety of other assessments are used, including written, oral and practical work, group and independent projects and assessment by subject teachers. To be awarded the Diploma at the conclusion of the two-year period of study, students must have gained a total of 24 points and have performed at a satisfactory level in all subjects. They must also have fulfilled the requirements of the Theory of Knowledge course, submitted an Extended Essay and fully participated in the Quan Cai (CAS) Programme. Brief details of these are given below, and students may gain bonus marks through their performance in the first two of these extra components.

**Theory of Knowledge** – this is a course which explores the relationships among the various disciplines and which encourages students to engage in critical reflection and analysis of the knowledge acquired within and beyond the classroom.

**Extended Essay** – this is an essay of approximately 4000 words based on personal research in one of the I.B. subjects and carried out under the supervision of a member of staff.

**Quan Cai (CAS)** - Students are required to participate in a variety of Creative, Activity and Service (CAS) activities to develop personal qualities and new skills as an integral part of their education. Special importance is attached to the programme of community service. This aims to integrate students into the community and allows them to share their knowledge, individual cultures and particular abilities with others.

We strongly recommend that students take advantage of the location of the College, and take Mandarin as one of their courses where appropriate. The opportunity to have a "hands-on" input from fellow students and the local environment is one that you should not miss. The International Baccalaureate is a very special, challenging and satisfying curriculum. Its philosophy reflects the mission and goals of the United World Colleges and its depth and scope allow for intellectual fulfilment.

Further information about the International Baccalaureate can be found on the web at <http://www.ibo.org/diploma>

## **ACADEMIC SUBJECT NOTES**

The following notes are supplementary to the information contained in course descriptors in the main section of this handbook.

### **English**

Most non-native English speakers do very well at Li Po Chun in every respect; however, it is useful to have achieved the best possible level of English before arriving at the College. Once here, all courses are taught in English, and therefore unless you are fairly competent in the language, it is possible to fall behind in other subjects because you might have difficulty following the lessons.

Four excellent ways of improving your English would be:

1. To sign up for English courses at the British Council, where the teaching is excellent. A one month basic course would make a tremendous difference to your confidence in both written and spoken English.
2. If this is not possible, buy a suitable coursebook with listening tapes and workbooks. The Cambridge or BBC English Courses are among the best, but today there are a lot to choose from on the market. Buy the one that looks most helpful for your level.
3. Buy simplified reading books in English so that you can practise reading for pleasure, without having to look up lots of words in a dictionary all the time. (If you can join the British Council library, suitable coursebooks and reading books are available there).
4. BBC, CNN, MTV and satellite television in English may also be available for you to watch. Films may sometimes be shown in English, with subtitles. The BBC World Service also provides both ordinary programmes and English lessons on the radio.

Here at Li Po Chun, we do not use an English as a Second Language (ESL) coursebook, nor is there a list of set books for the Group 2 language courses. The syllabus mainly consists of topic work for which it is difficult to prepare specifically. We believe that if you follow some of the advice provided above, you will improve your chances of settling in quickly.

### **EAL Support**

Furthermore, the College offers support to those students who need further help with their English proficiency across the subjects. The aim of our “English as an Additional Language (EAL)” support is to provide students with various strategies tailored to their individual needs such as note-taking skills, study skills, vocabulary-building skills, communication skills, etc. These specific needs are ascertained through an initial survey and individual meetings with the students concerned. Teachers who are worried about the English language ability of students in their classes can also recommend EAL support to the student. Students are also welcome to ask for the support themselves if they feel it is necessary.

### **Language Courses and Levels**

Students are required to select at least one language from Group 1. They are also required to select a different second language from either Group 1 or Group 2. Students also have the option of studying a third language (from either Group) as an elective instead of a Group 6 subject.

## **Group 1**

Group 1 courses are suitable for students who have experience of using the language in an academic context. Group 1 courses are designed to support future academic study by developing high levels of language competence and communication skills as well as social, aesthetic and cultural literacy. Literature plays a central role in the courses and each course highlights a different perspective in the study of texts.

Taught courses in Language A are available in Chinese, English and Spanish at both HL and SL. Native speakers of other languages will take Language A - Literature at the SL level as a school –supported self-taught language. Limited tutoring will be available for most of the school –supported self-taught languages, but we cannot guarantee this. A proficient bilingual student may study two Language A subjects rather than a second language chosen from the Group 2 options.

**Language A - Literature:** the focus is directed towards developing the ability to use the techniques of literary criticism and promoting the ability to form independent literary judgments. This is a course that exposes students to literary and non-literary texts from a variety of cultures, in a range of genres.

**Language A - Language and Literature:** looks openly at critical literacy and is directed towards understanding the nature of meaning generated by language. In addition, language and literature allows the exploration of a wide variety of non-literary texts.

## **Group 2**

Group 2 courses provide students with the opportunity to acquire or develop an additional language (or languages) and to promote an understanding of other cultures through the study of language.

Language ab initio and language B are language acquisition courses designed to provide students with the necessary skills and intercultural competence that will enable them to communicate successfully in an environment where the language studied is spoken.

- **Language B** is for students who have a reasonable background in the language, but who are not native speakers and who do not yet have the fluency of Language A speakers. Chinese, English, Spanish and French are offered as Language B at both HL and SL. Students will normally have studied the language previously for 2-5 years.
- The ***ab initio*** course is designed for students who have little or no experience of the language and is available at SL only. It is offered in French, Mandarin and Spanish.

During Orientation Week the Language Department will assist you in determining the appropriate level for you to be taking your language subjects. It is important however to think carefully about which language choices might be best for you, before coming to the College.

### **Group 3**

There are three HL subjects (Geography, History and Economics), and five SL subjects (Geography, Political Thought, Business & Management Studies, Chinese Studies and Economics) offered by the College (excluding the trans-disciplinary subject Environmental Systems and Societies which is in both Group 3 & 4)

**Students are discouraged to take two SL only subjects in Group 3.**

#### **Economics**

Economics will be offered as a HL subject in year 1. However, students can change from HL to SL at the end of year 1. Both HL & SL students will be in the same class. As a major HL extension topic will be taught in the second year, SL students will be given time out while students are having classes on HL extension topic. Students taking Economics are expected to have a good Mathematical background and they are strongly encouraged to take Maths at HL or SL levels.

### **Course available for two subject Groups 3 & 4**

#### **Environmental Systems and Societies**

The Environmental Systems and Societies is a trans-disciplinary course designed to provide students with a coherent perspective on the environment that is essentially scientific and above all enables them to adopt an informed and responsible stance on a wide range of pressing environmental issues. The programme content is such that students' attention can be constantly drawn to their own relationship with the environment and the significance of the choices and decisions they make in their own lives. Also, since the resolution of the major environmental problems rests so heavily upon international relationships and agreements, the programme naturally lends itself to issues relating to the nature and values of internationalism. Environmental Systems and Societies is available at SL only, hence this is the ideal science course for those not intending to continue to study sciences at a tertiary level. It can also count as both a Group 3 and a Group 4 option, so taking this as the only subject in Group 3 and Group 4 allows students to study two Group 6 subjects in their Diploma.

### **Group 4**

At Li Po Chun United World College the subjects in this group are **Biology, Chemistry and Physics**. (Environmental Systems and Societies is a trans-disciplinary subject which covers the requirements for groups 3 and 4 of the hexagon.)

**All group 4 subjects are taught as combined HL and SL classes.** SL students are given time out when HL only topics are being covered in class. This enables students to easily change the level of their science without the need to change class.

## **Group 5**

### **Mathematics Levels**

Four courses are offered, two at Higher Level and two at Standard Level to cater for the wide range of student abilities in Mathematics. The **Higher Level** course is designed for students with a good background and ability in Maths and is useful preparation for university courses in which Maths can be applied such as engineering – *if you are not going to need HL Maths at university, you are advised not to do this course.* **Further Maths** is offered at HL and it will cover all the option topics in HL Maths and Geometry. This is for those students with **very strong** Mathematical background and is planning to major in courses such as pure maths in universities. Further Maths eligibility will be assessed by the Maths teachers on arrival at LPC. **Standard Level Mathematics** is a demanding course which requires a substantial amount of background in Maths and is a good course for students planning to study Science, Economics or Business Administration at university. **Mathematical Studies (SL)** is intended for students whose interests do not lie in a field where mathematical skills and techniques are required.

## **Group 6**

### **The Arts:**

Students are encouraged to consider an Arts subject in Group 6 as their sixth subject. This allows students to widen their academic program.

### **Theatre**

Theatre aims to help students understand the nature of theatre by studying it as well as making it. It uses practical activities in class to imaginatively explore character, movement and emotion, then links these with the study of various theatrical forms; from mask and mime through to physical theatre and devised work. Throughout there is an emphasis on a collaborative approach, while a balance between theory and practice is maintained. Students will be expected to research different theatrical traditions and be able to respond critically to productions they see. They will also participate in a number of productions over the two years of the course to put these skills and understandings into practice.

### **Visual Arts**

The program invites students to use their personal experiences as the motivation for the making of art works. Emphasis is placed upon the multicultural perspective of I.B. and, as a means of enriching visual understanding, a variety of cultural traditions and concepts are explored. Students will be challenged to develop ideas and to make informed decisions about visual issues. While a variety of materials and media will be explored the focus is on understanding how the visual arts operate rather than just on technical skill.

## **University Recognition**

It is expected that many students will return to their home countries for university studies after completion of their two years at Li Po Chun. If this is the case it is essential that you know the requirements of the universities in your country BEFORE you make your subject choices. It is also ESSENTIAL that you get the relevant information about the recognition of the I.B. at the university you want to study at and about the choices of I.B. subjects (including the level) required by the university for the specific studies you intend to undertake, if you know at this stage. Regulations and requirements vary TREMENDOUSLY from one university to another, and even from one department to another inside a given university. As regulations change from year to year, we cannot hope to have full information for all the departments in all the universities in 80 different countries! Further information about this can be found at <http://www.ibo.org/diploma/recognition/>

It is an I.B. regulation that a student must take a subject from each of Groups 1 to 5 unless a written statement is obtained from a university, to which the student intends applying, stating that three subjects within one group are required for entry to a particular course (e.g. there are still some institutions that require a student to have been studying all three sciences for entry into medical courses). Under such circumstances the I.B. will usually allow an application for a non-standard Diploma.

Some countries require the International Baccalaureate Diploma to be 'legalised'. The significant legalisation costs are the responsibility of the student and must be paid in April of the second year.

## **Calculators and Computers**

The I.B. Mathematics courses require students to have a graphic display calculator. The Mathematics Department uses the Texas Instruments TI-84 plus and TI-nspire (non-CAS) models, but many other models are acceptable. Many students find that, although the college provides computing facilities, a portable laptop computer and printer are very useful for the production of written assignments. Like all electronic goods, calculators and computers can be purchased at very competitive prices in Hong Kong.

## **IB General Regulations**

One of the duties of the College, as an IB school, is to supply all students and their parents/guardians with a copy of the General Regulations of the IB. There are links to the IB General Regulations and Amendments on the LPCUWC Joining Papers webpage – please ensure that you download and read these two documents. Please then ensure that you pass it to your parents/guardian so they can read it and store it in a safe place.

I hope that you will find this handbook useful.

Beta Chau  
Director of Studies  
June 2016

# **Academic Programme**

**2016 – 2017**

## **COURSE DESCRIPTION**

# GROUP 1 & 2 LANGUAGES

## LANGUAGE A: LITERATURE

### Subject Outline

**Language A - Literature:** the focus is directed towards developing the ability to use the techniques of literary criticism and promoting the ability to form independent literary judgments. This is a course that exposes students to literary and non-literary texts from a variety of cultures, in a range of genres.

#### **Part 1: Works in translation**

SL: **Two** works

HL: **Three** works

#### **Part 2: Detailed study**

SL: **Two** works

HL: **Three** works

Each work is chosen from a **different** genre.

#### **Part 3: Literary genres**

SL: **Three** works

HL: **Four** works

Works are chosen from the **same** genre.

#### **Part 4: Options**

SL: **Three** works

HL: **Three** works

Works are freely chosen in any combination.

# Assessment Outline

## External Assessment – 70%

### *Paper 1: Guided literary analysis (1 hour 30 minutes)*

The paper consists of two passages: one prose and one poetry. Students choose one and write a guided literary analysis in response to two questions. (20 marks)

### *Paper 2: Essay (1 hour 30 minutes)*

The paper consists of three questions for each literary genre.

In response to one question students write an essay based on at least two works studied in part 3. (25 marks)

### *Written assignment*

Students submit a reflective statement and literary essay on one work studied in part 1. (25 marks)

The reflective statement must be 300–400 words in length.

The essay must be 1,200–1,500 words in length.

## Internal assessment– 30%

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

### *Individual oral commentary (10 minutes)*

Students present a formal oral commentary and answer subsequent questions on an extract from a work studied in part 2. (30 marks)

### *Individual oral presentation (10–15 minutes)*

The presentation is based on works studied in part 4. It is internally assessed and externally moderated through the part 2 internal assessment task. (30 marks)

## **Subject skills**

The Language A: Literature course encourages students to appreciate the artistry of literature and to develop an ability to reflect critically on their reading.

## **Uses of the Subject**

The subject provides skills that are used across the Diploma Programme and in a range of subjects at universities. Students interested in any form of writing will find the skills acquired in the subject useful, most obviously the study of literature. Other areas include journalism, law, theatre, communication and media.

Additionally, the skills developed will help in all subjects as candidates will learn to analyse and construct pieces of writing.

## **Pre-existing requirements**

As a Group 1 subject, Literature should be studied in your mother tongue or your best academic language (that you have already used to study other subjects). You should ensure that you read the information at the beginning of this handbook.

*Note: Languages other than Chinese, Spanish and English may be studied as a school – supported self-taught Language A SL. These classes are supervised by a teacher with students working with a tutor in their mother tongue. This class is available only in mother tongue languages in which students are proficient and able to provide effective literary analysis.*

# LANGUAGE A: LANGUAGE & LITERATURE

## Subject Outline

The Language A: Language and Literature course aims to make the link between language – as expressed in different types of text - and culture. The course allows for the exploration of a wide variety of non-literary texts.

Language A Language and literature is offered in Spanish, Mandarin and English only.

### *Part 1: Language in cultural context*

Texts are chosen from a variety of sources, genres and media.

### *Part 2: Language and mass communication*

Texts are chosen from a variety of sources, genres and media.

### *Part 3: Literature—texts and contexts*

SL: Two texts, one of which is a text in translation

HL: Three texts, one of which is a text in translation

### *Part 4: Literature—critical study*

SL: Two texts

HL: Three texts

## Assessment Outline

The course is assessed through externally assessed components and those assessed internally;

### **External Assessment – 70%**

*Paper 1* - Textual analysis – an analysis of one text from a choice of two (SL) or comparison of two text styles (HL)

*Paper 2* - Essay - a response to one of six questions students write an essay based on at least two of the literary texts studied in part 3

*Written Task* - Completed during the course, students complete at least 4 written tasks (at HL) / 3 (at SL), submitting 2 (at HL) or 1 (at SL) for assessment

### **Internal Assessment – 30%**

*Individual Oral Commentary* - Students comment on an extract from a literary text studied in part 4 of the course.

*Further Oral Activity* - Students complete at least two further oral activities, one based on part 1 and one based on part 2 of the course.

## **Subject skills**

Students studying the Language and literature course should have an understanding of a range of text types and how language is used. Students are expected to show knowledge and understanding, application and analysis, and synthesis and evaluation in the various tasks that are completed. Additionally, the ability to communicate ideas through both writing and oral presentation is useful and will be developed throughout the course.

## **Uses of the Subject**

The subject provides skills that are used across the Diploma Programme and in a range of subjects at universities. Students interested in any form of writing will find the skills acquired in the subject useful. These areas include journalism, law, theatre, communication and media.

Additionally, the skills developed will help in all subjects as candidates will learn to analyse and construct pieces of writing.

## **Pre-existing requirements**

As a Group 1 subject Language and literature should be studied in your mother tongue or your best academic language (that you have already used to study other subjects). You should ensure that you read the information at the beginning of this handbook.

# LANGUAGE B ENGLISH, MANDARIN, SPANISH, FRENCH

## Subject Outline

Language B is an additional language-learning course designed for students with some previous learning of that language. It may be studied at either SL or HL. The main focus of the course is on language acquisition and development of language skills.

The core—with topics common to both levels—is divided into **three** areas and is a required area of study.

- Communication and media
- Global issues
- Social relationships

In addition, at both SL and HL, teachers select **two** from the following **five** options.

- Cultural diversity
- Customs and traditions
- Health
- Leisure
- Science and technology

Also, at HL, students read **two** works of literature.

## Assessment Outline

### External assessment

*Paper 1 (1 hour 30 minutes): Receptive skills*

Text-handling exercises on four written texts, based on the core.

*Paper 2 (1 hour 30 minutes): Written productive skills*

SL - One writing exercise of 250–400 words from a choice of five, based on the options.

HL - Two compulsory writing exercises.

Section A: One task of 250–400 words, based on the options, to be selected from a choice of five.

Section B: Response of 150–250 words to a stimulus text, based on the core.

*Written assignment: Receptive and written productive skills*

Intertextual reading followed by a written exercise of 300–400 words plus a 100-word rationale, based on the core.

## **Internal assessment**

### *Individual oral (8–10 minutes)*

Based on the options: 15 minutes' preparation time and a 10-minute (maximum) presentation and discussion with the teacher.

### *Interactive oral activity*

Based on the core: Three classroom activities assessed by the teacher.

## **Subject skills**

The main focus of the course is on language acquisition and development of language skills. These language skills should be developed through the study and use of a range of written and spoken material. Such material will extend from everyday oral exchanges to literary texts, and should be related to the culture(s) concerned. The material should be chosen to enable students to develop mastery of language skills and intercultural understanding.

## **Uses of the Subject**

The benefits of learning languages are well known. The benefits extend not only into university courses, and professional life, but also in personal life. Through language acquisition in Group 2 students are exemplifying the aims of both the IB and UWCs.

## **Pre-existing requirements**

Language B is an additional language-learning course designed for students with some previous learning, typically between 2 and 5 years, of that language.

# **AB INITIO LANGUAGE**

# **FRENCH, SPANISH & MANDARIN**

(SL ONLY)

## **Subject Outline**

Three areas of study—language, texts and themes—provide the basis of the two-year language ab initio course. The language ab initio course is organized into three themes.

- Individual and society
- Leisure and work
- Urban and rural environment

Each theme has a list of topics that provide students with opportunities to practise and explore the language as well as to develop intercultural understanding.

## **Assessment Outline**

### **External assessment - 75%**

*Paper 1 (1 hour 30 minutes): Receptive skills*

Understanding of four written texts. (40 marks)

Text-handling exercises.

*Paper 2 (1 hour): Productive skills*

Two compulsory writing exercises. (25 marks)

Section A (7 marks): One question to be answered from a choice of two.

Section B (18 marks): One question to be answered from a choice of three.

Written assignment: Receptive and productive skills

A piece of writing, 200–350 words, in the target language (20 marks)

### **Internal assessment (10 minutes): Interactive skills – 25%**

Individual oral (25 marks)

Three-part oral internally assessed by the teacher and externally moderated by the IB towards the end of the course.

- Part 1: Presentation of a visual stimulus (from a choice of two) by the student
- Part 2: Follow-up questions on the visual stimulus
- Part 3: General conversation including at least two questions on the written assignment

## **Subject skills**

Ab Initio subjects provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken. This process encourages the learner to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity.

## **Uses of the Subject**

The course starts your language learning, providing an understanding of the language and its associated culture.

The benefits of learning languages are well known. The benefits extend not only into university courses, and professional life, but also in personal life. Through language acquisition in Group 2 students are exemplifying the aims of both the IB and UWCs.

## **Pre-existing requirements**

None

# HISTORY

## Subject Outline

IB History at LPC follows **Route 2- 20<sup>th</sup> century world history**. This means that **at first** students will study a prescribed subject. That is:

Peacemaking, peacekeeping—international relations 1918-36

This prescribed subject addresses international relations from 1918 to 1936 with emphasis on the Paris Peace Settlement—its making, impact and problems of enforcement—and attempts during the period to promote collective security and international cooperation through the League of Nations and multilateral agreements (outside the League mechanism), arms reduction and the pursuit of foreign policy goals without resort to violence. The prescribed subject also requires consideration of the extent to which the aims of peacemakers and peacekeepers were realized and the obstacles to success.

**In addition students will be studying TWO Route 2 topics:**

**Topic 1: Causes, practices and effects of wars**

**Topic 3: Origins and development of authoritarian and single-party states**

The **WARS** to be studied under **Topic 1** will be:

- WW1 (effects only), WW2 in Europe,
- The Pacific War, the Chinese Civil War, the Gulf War (1991)

The **SINGLE PARTY STATES** to be studied under **Topic 3** will be Nazi Germany and Mao's China.

Finally the HL option available at LPC is:

**HL Option 4: Aspects of the History of Asia and Oceania**

1-Early modernization and imperial decline in East Asia—mid 19<sup>th</sup> to the early 20<sup>th</sup> century (focus on China and Japan)

2-The Republic of China 1912-49 and the rise of Communism

3-China: the regional superpower from mid 20<sup>th</sup> century to 1976

## Assessment Outline

**Internal Assessment: 20%**

A written work on a subject of the student's choice.

Max: 2000 Words.

**External Assessment: 80%**

*Paper 1* - Four short-answer/structured questions, documents based (20%) 25 Marks

*Paper 2* - Two extended-response questions, each from a different 20<sup>th</sup> century topic. (25%) 40 Marks

## Subject skills

### *Assessment objective 1: Knowledge and understanding*

- Recall and select relevant historical knowledge
- Demonstrate an understanding of historical context
- Demonstrate an understanding of historical processes: cause and effect; continuity and change
- Understand historical sources (Paper 1)
- Deploy detailed, in-depth knowledge (Paper 3)
- Demonstrate knowledge and understanding of a specific historical topic (IA)

### *Assessment objective 2: Application and interpretation*

- Apply historical knowledge as evidence
- Show awareness of different approaches to, and interpretations of, historical issues and events
- Compare and contrast historical sources as evidence
- Present a summary of evidence (IA)

### *Assessment objective 3: Synthesis and evaluation*

- Evaluate different approaches to, and interpretations of, historical issues and events
- Evaluate historical sources as evidence (Paper 1 and IA)
- Evaluate and synthesize evidence from both historical sources and background knowledge (Paper 1)
- Develop critical commentary using the evidence base (Paper 2 and Paper 3)
- Synthesize by integrating evidence and critical commentary ( Paper 3)
- Present an analysis of a summary of evidence (IA)

### *Assessment objective 4: Use of historical skills*

- Demonstrate the ability to structure an essay answer, using evidence to support relevant, balanced

## Uses of the Subject

### *Reasons to study the subject:*

The study of history helps to understand people and societies and how they behave. It also helps us to understand change and how the societies we live in came to be. More importantly it plays a key role in helping us to understand how we individually fit in society and why; in that sense it is of key importance in providing us with a sense of individual and collective identity. Finally all of the above is essential in allowing us to play an active role and to contribute positively as citizens.

### *Potential university linkages:*

Many students studying History will continue to do so at the University Level. But as a discipline it is also a great foundation for Law, International Relation, Political Science, Literature, Communication and Media Studies, Journalism, as well as Economics, as well as Geography. There is an historical component to all Social Sciences.

### *Professional / career opportunities:*

The Study of History and the skills it instils, provides an excellent foundation for a career in: law, journalism, teaching, politics, diplomacy, and management.

*Other DP subject combinations:*

Many Humanities students taking History will also take either Economics or Geography.

This subject is very language intensive and also requires a lot of analytical thinking and writing and can help people taking English A or B to improve their language skills in other areas, such as reading and speaking.

## **Pre-existing requirements**

There are no pre-existing requirements and students who have never studied History will not have an advantage over students who have not. However, students taking History have to enjoy researching, reading and writing and be willing to participate in class presentations and discussions. All are essential in gaining the skills necessary to do well in this subject.

## **ECONOMICS**

## Subject Outline

There are 4 sessions to be studied

**Section 1:** Microeconomics (Demand and supply, Elasticity, Government intervention, Market failure)

Theory of the firm and market structures (HL only and will be taught in Y2)

**Section 2:** Macroeconomics (Aggregate demand and aggregate supply, Macroeconomic objectives; Fiscal, Monetary and Supply-side policies)

**Section 3:** International economics (International trade, Exchange rates, Balance of payments, Economic integration and Terms of trade)

**Section 4:** Development economics (Meaning and Measurement, Role of domestic factors, international trade, foreign direct investment (FDI), foreign aid, international debt and the balance between markets and intervention)

## Assessment Outline

### Internal Assessment: 20%

Students produce a portfolio of three commentaries, based on different sections of the syllabus and on published extracts from the news media.

Max 750X3 words (same for both HL and SL)

### External Assessment: 80%

Paper 1 – Extended response (essay) questions 30% (for SL 40%)

Paper 2 – Data Response questions 30% (for SL 40%)

Paper 3 – HL extension (mainly calculation questions) 20%

## Subject skills

Students are expected to possess the following skills at the end of the course:

1. Demonstrate knowledge and understanding of the syllabus and current economic issues and data
2. Demonstrate application of economic concepts and theories to real-world situations
3. Demonstrate synthesis and evaluation i.e. able to examine economic concepts and theories; use them to construct and present an argument; evaluate economic information and theories in relation to the economic issues
4. Produce well-structured written material, using appropriate economic terminology
5. Use correctly labelled diagrams to help explain economic concepts and theories
6. Select, interpret and analyse appropriate extracts from the news media and interpret appropriate data sets

At HL only: Use quantitative techniques to identify, explain and analyse economic relationships

## Uses of the Subject

*Reasons to study the subject:*

The study of economics is essentially about dealing with scarcity, resource allocation and the methods and processes by which choices are made in the satisfaction of human wants. With the knowledge gained in the subject, students will be able to understand how the economies work in theories. However, these economic theories are not to be studied in a vacuum—rather, they are to be applied to real-world issues. In the syllabus, these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability. The ethical dimensions involved in the application of economic theories and policies permeate throughout the economics course as students are required to consider and reflect on human end-goals and values.

The economics course encourages students to develop international perspectives, fosters a concern for global issues, and raises students' awareness of their own responsibilities at a local, national and international level.

A foundation in Economics is not only for those who will continue to pursue Economics in the future, it is also useful for everyone as we need to understand how economic situations and policies would affect our daily living.

*Potential university linkages:*

Many students taking Economics continue to study Social Sciences, Economics, Business Management, International Relations, Law and Politics  
Economics at the IB level is a very useful foundation for Liberal education.

*Professional / career opportunities:*

Banking and Financial institutions, Government, Research institutions, Management at large corporations

*Other DP subject combinations:*

Most Humanities students taking Geography or History are also taking Economics as well. As this subject requires a lot of analytical thinking skills, it is also a popular humanities subject for science students especially when there is a quantitative component in the assessment.

## **Pre-existing requirements**

There are no pre-existing requirements in this subject, however, for those students who have fear in graphs, this may not be a suitable subject as there are many graphs in Economics.

# **GEOGRAPHY**

## **Subject Outline**

*Part 1: Core theme—patterns and change (SL/HL)*

1. Populations in transition

2. Disparities in wealth and development
3. Patterns in environmental quality and sustainability
4. Patterns in resource consumption

#### *Part 2: Optional themes (SL/HL)*

Two optional themes are required at SL.

Three optional themes are required at HL.

Usually 3 of the following....

- B. Oceans and their coastal margins
- D. Hazards and disasters—risk assessment and response
- F. The geography of food and health
- G. Urban environments

#### *Part 3: HL extension—global interactions (HL only)*

There are seven compulsory topics in the HL extension.

1. Measuring global interactions
2. Changing space—the shrinking world
3. Economic interactions and flows
4. Environmental change
5. Socio cultural exchanges
6. Political outcomes
7. Global interactions at the local level

## **Assessment Outline**

### **Internal and External components**

SL – 2 exams (75%) and Internal Assessment of 2500 words (25%)

HL – 3 exams (80%) and Internal Assessment of 2500 words (20%)

Questioning styles: Responses linked to stimulus material and some extended writing

## **Subject skills**

A good general knowledge of 21<sup>st</sup> Century global issues, an interest in how things work, empathy towards others, interests in other cultures, a degree of computer literacy, especially effective use of search engines, being a visual learner, the ability to share your knowledge of your own town, city or region.

### *Teaching and learning approach:*

Good for visual learners: Student led lessons, group work, contemporary documentaries, lectures with visuals, internet more than text book based to remain current, creative, use of online digital learning platforms, TED talks, simulations and problem solving exercises, fieldtrips, peer to peer sharing and learning.

## **Uses of the Subject**

Geography helps develop critical literacy, international understanding, effective use of digital mapping and satellite technology, many academics see the course as an excellent introduction to development studies.

YOU DO NOT need any previous experiences. If you have studied geography before, the Diploma course is very, very different in its approach.

Combines well with Economics, Biology, ESS, Physics

## **Pre-existing requirements**

None

# **BUSINESS & MANAGEMENT**

## **Subject Outline**

There are 4 sessions to be studied

*Section 1: Business organization and environment:* Nature of business activity, Types of organization, Objectives, Stakeholders, External environment, Organizational planning tools, Growth, Globalization

*Section 2: Human resources:* Human resource planning, Organizational structure, Communication, Leadership and management, Motivation

*Section 3: Accounts and finance:* Sources of finance, Investment appraisal, Working capital

*Section 4: Marketing:* The role of marketing, Marketing planning, Marketing mix, International marketing, E-commerce

## **Assessment Outline**

*Internal Assessment: 25%*

Students produce a 1500 word commentary to study a problem within a company using a minimum of three sources of evidence and applying business theory.

*External Assessment: 75%*

Paper 1 – Long case study 50 marks (35%)

Paper 2 – Data Response questions 60 marks (40%)

## **Subject skills**

Students are expected to possess the following skills at the end of the course:

1. Demonstrate knowledge and understanding of the syllabus
2. Demonstrate application of business concepts and theories to analyse and evaluate real problems in a business.
3. Be able to understand and construct a basic financial analysis
4. Construct a research question based on a problem in an existing company
5. Make a research plan and collate own secondary and primary data

Be able to select and utilise data to answer a research question

## **Uses of the Subject**

*Reasons to study the subject:*

Business and management is a rigorous and dynamic discipline that examines business decision-making processes and how these decisions impact on and are affected by internal and external environments. It is the study of both the way in which individuals and groups interact in an organization and of the transformation of resources. The business and management course is designed to develop an understanding of business theory, as well as an ability to apply business principles, practices and skills. The application of tools and techniques of analysis facilitates an appreciation of complex business activities. The course considers the diverse range of business organizations and activities and the cultural and economic context in which business operates. Emphasis is placed on strategic decision-making and the day-to-day business functions of marketing, production, human resource management and finance. Links between the topics are central to the course, and this integration promotes a holistic overview of business activity. The business and management course aims to help students understand the implications of business activity in a global market. It is designed to give students an international perspective of business and to promote their appreciation of cultural diversity through the study of topics like international marketing, human resource management, growth and business strategy. The ideals of international cooperation and responsible citizenship are at the heart of Diploma Programme business and management. The course encourages the appreciation of ethical concerns and issues of social responsibility in the global business environment. Students should be able to make sense of the forces and circumstances that drive and restrain change in an interdependent and multicultural world. The business and management course

will contribute to students' development as critical and effective participants in local and world affairs.

*Potential university linkages:*

Many students taking Business and Management continue to study Social Sciences, Economics, Business Management, International Relations, Law and Politics.

Business and Management at the IB level is a very useful foundation for Liberal education.

*Professional / career opportunities:*

Banking and Financial institutions, Government, Research institutions, Management at large corporations

## **Pre-existing requirements**

There is no pre-existing requirement for this subject.

# **GLOBAL POLITICS**

## **Subject Outline**

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. The course consists of four core units.

### **Power, Sovereignty and International Relations**

This unit focuses on the dynamics of power and how it is manifested and legitimized at various levels. The roles of state and non-state actors are examined, their interactions in global politics are discussed and their success in achieving their aims and objectives is evaluated.

*Key concepts:* power, sovereignty, legitimacy, interdependence

*Potential cases studies:* Failed states (Iraq, Congo); Arab Spring; US/China Relations

### **Human Rights**

This unit focuses on the nature and practice of human rights. Debates surrounding human rights are examined.

*Key concepts:* human rights, justice, liberty, equality

*Potential cases studies:* NSA surveillance; Palestine and Israel; Human trafficking; honor killings; the right to bear arms

### **Development**

This unit focuses on what development means, how it can be pursued and what may help or stand in the way of people, communities and countries becoming better off in a comprehensive sense. Debates surrounding development are examined.

*Key concepts:* development, globalization, inequality, sustainability

*Potential cases studies:* China's foreign policy in Africa; the EU Crisis; Wall Street Crash of 2008

### **Peace and conflict**

This unit focuses on what peace, conflict and violence mean, how conflicts emerge and develop, and what can be done to build a lasting peace.

*Key concepts:* peace, conflict, violence, non-violence

*Potential case studies:* Ukraine Crisis; South China Sea Dispute; the War on Terror; Darfur/Rwanda/Yugoslavia

## **Assessment Outline**

### **Internal Assessment: 25% (SL)**

Engagement activity – 2,000 word written report on a political issue explored through the student's own engagement and research

### **External Assessment: 75% (SL)**

*Paper 1* – 1 hour 15 minutes – 30% (SL)

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% (SL)

Two extended-response questions, each chosen from a different world history topic  
Two essays from a choice of eight, each chosen from a different core unit

## Subject skills

### *Assessment objective 1: Knowledge and understanding*

- Demonstrate knowledge and understanding of key political concepts and contemporary issues in global politics
- Demonstrate understanding of relevant source material
- Demonstrate understanding of a political issue in a particular experiential situation (engagement activity)
- At HL only, demonstrate in-depth knowledge and understanding of political issues in two detailed case studies

### *Assessment objective 2: Application and analysis*

- Apply knowledge of key political concepts to analyse contemporary political issues in a variety of contexts
- Identify and analyse relevant material and supporting examples
- Use political concepts and examples to formulate, present and sustain an argument
- Apply knowledge of global politics to inform and analyze experiential learning about a political issue (engagement activity)
- At HL only, apply knowledge of global politics to analyse political issues in two case studies

### *Assessment objective 3: Synthesis and evaluation*

- Compare, contrast, synthesize and evaluate evidence from sources and background knowledge
- Compare, contrast, synthesize and evaluate a variety of perspectives and approaches to global politics, and evaluate political beliefs, biases and prejudices, and their origin
- Synthesize and evaluate results of experiential learning and more theoretical perspectives on a political issue (engagement activity)
- At HL only, demonstrate synthesis and evaluation of different approaches to and interpretations of political issues in two case studies

### *Assessment objective 4: Use and application of appropriate skills*

- Produce well-structured written material that uses appropriate terminology
- Organize material into a clear, logical, coherent and relevant response
- Demonstrate evidence of research skills, organization and referencing (engagement activity and HL extension in particular)
- At HL only, present ideas orally with clarity

## Uses of the Subject

### *Reasons to study the subject:*

The study of global politics helps to understand the nature of politics and to develop a firmer grasp on some of the key issues that have shaped recent human history. The course is a natural fit for students who have an interest in Model United Nations. The course seeks to ask difficult questions about the nature of human and societal relationships in the hopes of developing engaged global citizens.

*Potential university linkages:*

Like history, global politics lays a great foundation for international relations, law, political science, sociology, anthropology, journalism and geography.

*Professional / career opportunities:*

The study of global politics and the skills it instils, provides an excellent foundation for a career in law, journalism, teaching, politics, and diplomacy.

*Other DP subject combinations:*

The Global Politics wonderfully complements other Humanities subjects like History, Economics, and Geography

This subject is language intensive and requires a lot of conceptual thinking and analytical writing.

## **Pre-existing requirements**

There are no pre-existing requirements. Students who have taken Model United Nations or who closely follow current events will be additionally well-positioned to succeed.

# **ENVIRONMENTAL SYSTEMS & SOCIETIES**

*(SL ONLY)*

## **Subject Outline**

The ESS course is relevant to each and every young person, but perhaps more so UWC students. Through studying the interactions between the environment and different societies, students will gain a real understanding of our environmental impact and assess the merits of approaches to reduce these impacts.

No specific pre-existing knowledge is required and the focus will be on the various interrelationships between environmental systems and societies. Candidates will be expected to form an opinion based on investigations into environmental issues at both a local and a global level. The course is ideally suited to the internationalism of a UWC because it provides an opportunity to open up environmental agendas, protocols and political issues that the lives of people have already been affected by.

Environmental value systems are the cornerstone of this course and frameworks that stimulate argument invite students to discuss our environment from a nature, a people and a technology centred approach. By incorporating a Systems and Models method of study, candidates will investigate the various topics and understand how human populations interact with their environments. The 8 topics covered are:

- Foundations of environmental systems and societies
- Ecosystems and ecology
- Biodiversity and conservation
- Water and aquatic food production systems and societies
- Soil systems and terrestrial food production systems and societies
- Atmospheric systems and societies
- Climate change and energy production
- Human systems and resource use

## **Assessment Outline**

The assessment of the subject covers a range of styles, making it accessible to all students;

<b>PAPER</b>	<b>Marks</b>	<b>WEIGHTING</b>	<b>ASSESSMENT STYLE</b>
Paper 1 (60 minutes)	40	25%	Analysis and evaluation of a case study
Paper 2 (120 minutes)	65	50%	Section A (Short answers) and (Section B) two structured essays
Internal Assessment	30	25%	Individual investigation (1500-2250 words)

## **Subject skills**

The subject meets the aims of both Group 3 (Individuals and Societies) and Group 4 (Experimental Sciences) and as such expects students to develop relevant skills in both. As such, the following are developed;

- Synthesis – bring together information of different types and from a range of sources to develop an opinion or answer
- Analysis – interpret the relevance, meaning and validity of information and opinion and develop personal opinions
- Data interpretation, analysis and presentation – use data to present a conclusion
- Practical laboratory and field skills – generate data using appropriate techniques
- Communication skills – communicate ideas in a range of ways – written, graphical, oral etc.

Classes in the subject will employ a range of activities and styles in order to develop these skills.

## **Uses of the Subject**

The subject opens up many areas of environmental study at university. Environmental Management, Environmental Science and Environmental Studies are a small range of the diverse suite of environmental courses at university. ESS also supports study of Geography and Biology at DP level and consequently beyond.

Many students find that the course is an asset in apparently unrelated fields. A student studying law for example, may pursue an interest in environmental law as a result of the ESS course. The study of architecture may benefit from an understanding of ESS.

## **Pre-existing requirements**

There are no pre-existing requirements and the subject is open to all students who have an interest in environmental issues. An interest in Geography, Biology, Ecology or and environmental service would be an advantage but is not required.

# **GROUP 4            EXPERIMENTAL SCIENCES**

## **BIOLOGY**

## Subject Outline

Biology is the study of living organisms. This study is undertaken at a variety of levels, from the molecular to that of the biosphere. By the end of the course the student will have developed an appreciation of the interactions between these levels, and of organisms as functioning entities within the biosphere. Students will also develop an informed perspective in many of the new and ethically controversial areas of biological science such as genetic engineering, cloning and embryo research. Through this course of study it is intended that the student will develop a broad understanding of some general biological principles, in particular:

- That the living world portrays a fundamental unity with regard to its cellular structure and chemical composition.
- That the living world represents a great diversity of species and of individuals within those species.
- That balance exists at many levels within living systems, including the human body and the ecological interactions within the biosphere.

### The group 4 Biology syllabus is separated into:

CORE	Topics that are common to both SL and HL
ADDITIONAL HIGHER LEVEL (AHL)	Topics that are HL only and often extensions of the topics covered in the core.
OPTIONS	<b>One option is studied</b> that looks at a particular topic in more detail, required at both HL and SL.

### The topics covered in Biology are shown below:

#### Core:

- Cell Biology
- Molecular Biology
- Genetics
- Ecology
- Evolution and Biodiversity
- Human Physiology

#### AHL:

- Nucleic Acids
- Metabolism, Cell Respiration and Photosynthesis
- Plant Biology
- Genetics and Evolution
- Animal Physiology

#### Options:

- **Neurobiology and behavior**
- Biotechnology and Bioinformatics
- Ecology and Conservation
- **Human Physiology**

Note: The options shown in bold are those typically studied at Li Po Chun UWC, but this is at the discretion of the teacher.

## Assessment Outline

Group 4 subjects have a common assessment framework based upon externally set examinations and internally assessed (and externally moderated) practical work.

**External assessment:** Consists of three examination papers and contributes 80% of the final IB grade.

Paper	SL	HL
Paper 1 -	30 multiple choice questions on the core	40 multiple choice questions on the core and AHL
Paper 2	Short-answer and extended-response questions on core material.	Short-answer and extended-response questions on the core and AHL material.
Paper 3	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.

**Internal assessment:** Is based on practical work and contributes 20% of the final IB grade.

1. Practical work is assessed according to specific criteria:
  - Personal engagement
  - Exploration
  - Analysis
  - Evaluation
  - Communication
2. Student work is internally assessed using these criteria and then externally moderated to standardize the grades.

Other assessment:

Student learning is regularly assessed through topic tests and homework exercises. These do not contribute to the final IB grade but are important indicators of student progress and are used to determine interim grades for reporting purposes.

## Subject skills

Biology has a lot of content and so students with an interest in Science and also an ability to organise information and see the connections between related topics will do well. The recall and application of knowledge is a required skill.

There is a significant amount of vocabulary in this subject and students may find the language requirements challenging at first.

Practical work is an integral part of the Biology program with a view to developing manipulative skills; student will be taught to handle a range of different pieces of equipment including

microscopes and also work with living materials such fruit flies (*Drosophila melanogaster*) in genetic investigations. ICT is a key element of the lab work and the use of spread sheets, graph plotting software and data-logging equipment is expected. The practical course is taught assuming very little prior experience although any biology background would certainly be an advantage.

## **Uses of the Subject**

At higher level Biology provides a broad base of knowledge and skills that support study at tertiary level. The higher level course complements the higher level Chemistry course as there are a number of topics in the Biochemistry unit where there is overlap but with different perspectives. Higher level Biology is typically suitable for students planning to study in the Biological and Medical Sciences, students should review specific university requirements for themselves.

The standard level course would be suitable for students not intending to pursue science further at university, but who have an interest in extending their knowledge and understanding of Biology and its role in society.

## **Pre-existing requirements**

No prior knowledge of Biology theory or practical skills are assumed and so if you have no Biology background you can still take this subject.

# **CHEMISTRY**

## **Subject Outline**

Chemistry is the study of matter, and the “central science” that connects the physical sciences with the life sciences (such as biology) and applied sciences (such as engineering). Beginning from molecular, sub-microscopic models, we progress to see how these help us understand observable, macroscopic properties. By the end of this course, you would have developed a unified, coherent understanding of the world around us, and be able to think *fluidly* using diverse symbolic and visual representations. Studying chemistry gives you a solid underpinning for fields as useful (and exciting) as bio-medicine, nanotechnology, and earth sciences. Studying chemistry will also enhance your ability to critically evaluate current events and media reports that are (allegedly) based on scientific claims. Besides theoretical knowledge, you will also learn practical laboratory techniques and instruments to make matter change, and then to measure, analyse, and interpret these transformations.

**The group 4 Chemistry syllabus is separated into:**

CORE	Topics that are common to both SL and HL
ADDITIONAL HIGHER LEVEL (AHL)	Topics that are HL only and often extensions of the topics covered in the core.
OPTIONS	<b>One option is studied</b> that looks at a particular topic in more detail, required at both HL and SL.

**The topics covered in Chemistry are shown below:**

Core:

- Quantitative chemistry
- Atomic structure
- Periodicity
- Bonding
- Energetics
- Kinetics
- Equilibrium
- Acids and Bases
- Oxidation and reduction
- Organic chemistry
- Measurement and data processing.

AHL:

- Atomic structure
- Periodicity
- Bonding
- Energetics
- Kinetics
- Equilibrium
- Acids and Bases
- Oxidation and reduction
- Organic chemistry

Options:

- **Materials**
- **Biochemistry**

- Energy
- Medicinal chemistry

Note: The options shown in bold are those typically studied at Li Po Chun UWC, but this is at the discretion of the teacher.

**All group 4 subjects are taught as combined HL and SL classes.** SL students are given time out when HL only topics are being covered in class. This enables students to easily change the level of their science without the need to change class.

## Assessment Outline

Group 4 subjects have a common assessment framework based upon externally set examinations and internally assessed (and externally moderated) practical work.

**External assessment:** Consists of three examination papers and contributes 80% of the final IB grade.

Paper	SL	HL
Paper 1 -	30 multiple choice questions on the core	40 multiple choice questions on the core and AHL
Paper 2	Short-answer and extended-response questions on core material.	Short-answer and extended-response questions on the core and AHL material.
Paper 3	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.

**Internal assessment:** Is based on practical work and contributes 20% of the final IB grade.

1. Practical work is assessed according to specific criteria:

- Personal engagement
- Exploration
- Analysis
- Evaluation
- Communication

2. Student work is internally assessed using these criteria and then externally moderated to standardize the grades.

Other assessment:

Student learning is regularly assessed through topic tests and homework exercises. These do not contribute to the final IB grade but are important indicators of student progress and are used to determine interim grades for reporting purposes.

## Subject skills

Practical work is an integral part of the Chemistry program with a view to developing manipulative skills; students will be taught to handle a range of different pieces of equipment for data collection. Data analysis typically requires detailed calculation, graphing and propagation of uncertainties. ICT is a key element of the lab work and the use of spread sheets, graph plotting software and data-logging equipment is expected. The practical course is taught assuming very little prior experience although any chemistry background would certainly be an advantage.

Some topics in the theoretical component of the course, particularly at **higher level**, have a mathematical aspect with a strong emphasis on calculations, equations and the use of graphs. We strongly recommend **standard level mathematics as the minimum level** for students who plan to also study higher level chemistry.

## Uses of the Subject

At **higher level** Chemistry provides a broad base of knowledge and skills that support study at tertiary level. The higher level course complements the higher level Biology course as there are a number of topics in the Biochemistry unit where there is overlap but with different perspectives. Higher level Chemistry is typically suitable for students planning to study in the Biological and Medical Sciences. Chemistry also combines well with Physics and this would be a useful combination leading into engineering fields of study. For specific details students should review university requirements for themselves.

The **standard level** course would be suitable for students not intending to pursue science further at university, but who have a general interest in extending their knowledge and understanding of Chemistry.

## Pre-existing requirements

Some prior study of Chemistry, for example IGCSE, would be **strongly recommended**. Students who have never studied Chemistry will find this subject challenging, particularly at higher level.

# PHYSICS

## Subject Outline

The group 4 Physics syllabus is separated into:

CORE	Topics that are common to both SL and HL
ADDITIONAL HIGHER LEVEL (AHL)	Topics that are HL only and often background of the topics are covered in the core.
OPTIONS	<b>One option</b> that looks at a particular topic in more detail, required at both HL and SL.
Practical scheme of work	Practical Activities (40 Hr/SL & 60 Hr/HL)

The topics covered in Physics are shown below:

Core:

- Measurements and uncertainties
- Mechanics
- Thermal physics
- Waves
- Electricity and magnetism
- Circular motion and gravitation
- Atomic, nuclear and particle physics
- Energy production

AHL:

- Wave phenomena
- Fields
- Electromagnetic induction
- Quantum and nuclear physics

Options:

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

Note: The options shown in bold are those typically studied at Li Po Chun UWC, but this is at the discretion of the teacher.

**All group 4 subjects are taught as combined HL and SL classes.** SL students are given time out when HL only topics are being covered in class. This enables students to easily change the level of their science without the need to change class.

## Assessment Outline

Group 4 subjects have a common assessment framework based upon externally set examinations and internally assessed (and externally moderated) practical work.

**External assessment:** Consists of three examination papers and contributes 80% of the final IB grade.

Paper	SL	HL
Paper 1 -	30 multiple choice questions on the core	40 multiple choice questions on the core and AHL
Paper 2	Short-answer and extended-response questions on core material.	Short-answer and extended-response questions on the core and AHL material.
Paper 3	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.	Section A: one data-based question and several short-answer questions on experimental work. Section B: short-answer and extended-response questions from one option.

**Internal assessment:** Is based on a portfolio of practical work and contributes 20% of the final IB grade.

1. Practical work is assessed according to specific criteria:

- Personal engagement
- Exploration
- Analysis
- Evaluation
- Communication

2. Student work is internally assessed using these criteria and then externally moderated to standardize the grades.

Other assessment:

Student learning is regularly assessed through topic tests and homework exercises. These do not contribute to the final IB grade but are important indicators of student progress and are used to determine interim grades for reporting purposes.

## Subject skills

Practical work is an integral part of the Physics program with a view to developing manipulative skills; students are taught to handle a range of different pieces of equipment for data collection. Data analysis typically requires detailed calculation, graphing and propagation of uncertainties. ICT is a key element of the lab work and the use of spread sheets, graph plotting software and data-logging equipment is expected. The practical course is taught assuming very little prior experience although any prior background would certainly be an advantage.

Some topics in the theoretical component of the course, particularly at **higher level**, have a mathematical aspect with a strong emphasis on calculations, equations and the use of graphs. We strongly recommend **standard level mathematics as the minimum level** for students who plan to also study higher level physics.

## Uses of the Subject

At **higher level** Physics provides a broad base of knowledge and skills that support study at tertiary level. Chemistry also combines well with Physics and this would be a useful combination leading into engineering fields of study. For specific details students should review university requirements for themselves.

The **standard level** course would be suitable for students not intending to pursue science further at university, but who have a general interest in extending their knowledge and understanding of Physics.

## Pre-existing requirements

Some prior study of Physics, for example IGCSE, would be **strongly recommended**. Students who have never studied Physics will find this subject challenging, particularly at higher level.

# **ENVIRONMENTAL SYSTEMS & SOCIETIES**

*(SL ONLY)*

## **Subject Outline**

The ESS course is relevant to each and every young person, but perhaps more so UWC students. Through studying the interactions between the environment and different societies, students will gain a real understanding of our environmental impact and assess the merits of approaches to reduce these impacts.

No specific pre-existing knowledge is required and the focus will be on the various interrelationships between environmental systems and societies. Candidates will be expected to form an opinion based on investigations into environmental issues at both a local and a global level. The course is ideally suited to the internationalism of a UWC because it provides an opportunity to open up environmental agendas, protocols and political issues that the lives of people have already been affected by.

Environmental value systems are the cornerstone of this course and frameworks that stimulate argument invite students to discuss our environment from a nature, a people and a technology centred approach. By incorporating a Systems and Models method of study, candidates will investigate the various topics and understand how human populations interact with their environments. The 8 topics covered are:

- Foundations of environmental systems and societies
- Ecosystems and ecology
- Biodiversity and conservation
- Water and aquatic food production systems and societies
- Soil systems and terrestrial food production systems and societies
- Atmospheric systems and societies
- Climate change and energy production
- Human systems and resource use

## **Assessment Outline**

The assessment of the subject covers a range of styles, making it accessible to all students;

<b>PAPER</b>	<b>Marks</b>	<b>WEIGHTING</b>	<b>ASSESSMENT STYLE</b>
Paper 1 (60 minutes)	40	25%	Analysis and evaluation of a case study
Paper 2 (120 minutes)	65	50%	Section A (Short answers) and (Section B) two structured essays
Internal Assessment	30	25%	Individual investigation (1500-2250 words)

## **Subject skills**

The subject meets the aims of both Group 3 (Individuals and Societies) and Group 4 (Experimental Sciences) and as such expects students to develop relevant skills in both. As such, the following are developed;

- Synthesis – bring together information of different types and from a range of sources to develop an opinion or answer
- Analysis – interpret the relevance, meaning and validity of information and opinion and develop personal opinions
- Data interpretation, analysis and presentation – use data to present a conclusion
- Practical laboratory and field skills – generate data using appropriate techniques
- Communication skills – communicate ideas in a range of ways – written, graphical, oral etc.

Classes in the subject will employ a range of activities and styles in order to develop these skills.

## **Uses of the Subject**

The subject opens up many areas of environmental study at university. Environmental Management, Environmental Science and Environmental Studies are a small range of the diverse suite of environmental courses at university. ESS also supports study of Geography and Biology at DP level and consequently beyond.

Many students find that the course is an asset in apparently unrelated fields. A student studying law for example, may pursue an interest in environmental law as a result of the ESS course. The study of architecture may benefit from an understanding of ESS.

## **Pre-existing requirements**

There are no pre-existing requirements and the subject is open to all students who have an interest in environmental issues. An interest in Geography, Biology, Ecology or and environmental service would be an advantage but is not required.

# GROUP 5

# MATHEMATICS

## MATHEMATICAL STUDIES SL

### Subject Outline

Syllabus summary:

- Seven core topics
- Internal Assessment of an individual project

### TEACHING SCHEDULE

<b>FIRST YEAR</b>	<b>SECOND YEAR</b>
Number & Algebra	Financial Maths
Introduction to the GDC	Logic, Sets & Probability
Mathematical Models	Trigonometry
Geometry	Introductory Differential Calculus
Statistics	Revision for IB Exams

### Assessment Outline

#### External assessment (3 hours) - 80%

*Paper 1 (1 hour 30 minutes) - 40%*

15 compulsory short-response questions based on the whole syllabus. (90 marks)

*Paper 2 (1 hour 30 minutes) - 40%*

6 compulsory extended-response questions based on the whole syllabus. (90 marks)

#### Internal assessment - 20%

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

The project is an individual piece of work involving the collection of information or the generation of measurements, and the analysis and evaluation of the information or measurements. (20 marks)

### Subject skills

1. *Knowledge and understanding:* recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
2. *Problem-solving:* recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.
3. *Communication and interpretation:* transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.

4. *Technology*: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.
5. *Reasoning*: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.
6. *Investigative approaches*: investigate unfamiliar situations involving organizing and analysing information or measurements, drawing conclusions, testing their validity, and considering their scope and limitations.

## Uses of the Subject

This course is available only at standard level, and is equivalent in status to mathematics SL, but addresses different needs. It has an emphasis on applications of mathematics, and the largest section is on statistical techniques. It is designed for students with varied mathematical backgrounds and abilities. It offers students opportunities to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical topics. It prepares students to be able to solve problems in a variety of settings, to develop more sophisticated mathematical reasoning and to enhance their critical thinking. The individual project is an extended piece of work based on personal research involving the collection, analysis and evaluation of data. Students taking this course are well prepared for a career in social sciences, humanities, languages or arts. These students may need to utilize the statistics and logical reasoning that they have learned as part of the mathematical studies SL course in their future studies.

## Pre-existing requirements

All Studies students are expected to have extensive previous mathematical experiences. They are also expected to be familiar with the following topics before they take the examinations, because questions assume knowledge of them:  
Arithmetic, Simple Algebra, Data Collection and Representation, Basic Geometry and Mensuration, and SI (*Système International*) units of length, mass and time, and their derived units.

# MATHEMATICS SL

## Subject Outline

Syllabus summary:

- Six core topics
- Internal Assessment of an individual exploration

### TEACHING SCHEDULE

<b>FIRST YEAR</b>	<b>SECOND YEAR</b>
Algebra	Calculus – Integration
Functions & Equations	Vectors
Circular Functions & Trigonometry	Statistics & Probability
Calculus – Differentiation	

## Assessment Outline

### External assessment (3 hours) - 80%

*Paper 1 (1 hour 30 minutes) - 40%*

No calculator allowed. (90 marks)

*Section A*

Compulsory short-response questions based on the whole syllabus.

*Section B*

Compulsory extended-response questions based on the whole syllabus.

### **Paper 2 (1 hour 30 minutes) - 40%**

Graphic display calculator required. (90 marks)

*Section A*

Compulsory short-response questions based on the whole syllabus.

*Section B*

Compulsory extended-response questions based on the whole syllabus.

### Internal assessment - 20%

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

#### **Mathematical exploration**

Internal assessment in mathematics SL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)

## Subject skills

1. *Knowledge and understanding*: recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.

2. *Problem-solving*: recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.

3. *Communication and interpretation*: transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.

4. *Technology*: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.

5. *Reasoning*: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.

6. *Inquiry approaches*: investigate unfamiliar situations, both abstract and real-world, involving organizing and analysing information, making conjectures, drawing conclusions and testing their validity.

## **Uses of the Subject**

This course caters for students who already possess knowledge of basic mathematical concepts, and who are equipped with the skills needed to apply simple mathematical techniques correctly. The majority of these students will expect to need a sound mathematical background as they prepare for future studies in subjects such as chemistry, economics, psychology and business administration.

## **Pre-existing requirements**

All SL students are expected to have extensive previous mathematical experiences. They are also expected to be familiar with the following topics before they take the examinations, because questions assume knowledge of them:

Number, Sets and Numbers, Algebra, Trigonometry, Geometry, Coordinate Geometry, Statistics and Probability, and SI (*Système International*) units of length, mass and time, and their derived units.

# MATHEMATICS HL

## Subject Outline

Syllabus summary:

- Six core topics
- One out of four optional topics
- Internal Assessment of an individual exploration

## TEACHING SCHEDULE

<b>FIRST YEAR</b>	<b>SECOND YEAR</b>
Algebra	Calculus – Integration & Differential Equations
Functions & Equations	Option – Calculus
Circular Functions & Trigonometry	Vectors
Complex Numbers	Statistics & Probability
Calculus – Differentiation & Integration	

## Assessment Outline

### External assessment (5 hours) - 80%

*Paper 1 (2 hours) - 30%*

No calculator allowed. (120 marks)

*Section A*

Compulsory short-response questions based on the core syllabus.

*Section B*

Compulsory extended-response questions based on the core syllabus.

*Paper 2 (2 hours) - 30%*

Graphic display calculator required. (120 marks)

*Section A*

Compulsory short-response questions based on the core syllabus.

*Section B*

Compulsory extended-response questions based on the core syllabus.

*Paper 3 (1 hour) - 20%*

Graphic display calculator required. (60 marks)

Compulsory extended-response questions based mainly on the syllabus options.

### Internal assessment - 20%

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

*Mathematical exploration*

Internal assessment in mathematics HL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)

## Subject skills

1. *Knowledge and understanding:* recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.

2. *Problem-solving*: recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.

3. *Communication and interpretation*: transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.

4. *Technology*: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.

5. *Reasoning*: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.

6. *Inquiry approaches*: investigate unfamiliar situations, both abstract and real-world, involving organizing and analysing information, making conjectures, drawing conclusions and testing their validity.

## **Uses of the Subject**

This course caters for students with a good background in mathematics who are competent in a range of analytical and technical skills. The majority of these students will be expecting to include mathematics as a major component of their university studies, either as a subject in its own right or within courses such as physics, engineering and technology. Others may take this subject because they have a strong interest in mathematics and enjoy meeting its challenges and engaging with its problems.

## **Pre-existing requirements**

All HL students are expected to have extensive previous mathematical experiences. They are also expected to be familiar with the following topics before they take the examinations, because questions assume knowledge of them:

Number, Sets and Numbers, Algebra, Trigonometry, Geometry, Coordinate Geometry, Statistics and Probability, and SI (*Système International*) units of length, mass and time, and their derived units.

## GROUP 6

## THE ARTS

### VISUAL ARTS

#### Subject Outline

The aims of the visual arts course at higher and standard level are to enable students to:

- investigate past, present and emerging forms of visual arts and engage in producing, appreciating and evaluating these
- develop an understanding of visual arts from a local, national and international perspective
- build confidence in responding visually and creatively to personal and cultural experiences
- develop skills in, and sensitivity to, the creation of works that reflect active and individual involvement
- take responsibility for the direction of their learning through the acquisition of effective working practices.”

The programme is divided into two parts, *Studio Work* and *Investigation Workbooks*:

*Studio Work* is the production of a body of resolved Visual Art works that culminates in a combined exhibition. The work may take the form of drawings, paintings, sculptures, prints, photography, etc., a combination of media, or new media including installation, environmental or time-based.

*Investigation Workbooks* involve the gathering and sorting of visual information and ideas. The workbooks will include drawings, collage, photos, and written notes etc. covering contextual, visual and critical investigations.

#### Assessment Outline

The assessment in Visual Arts consists of two parts:

Option A students present an exhibition of their finished Studio Work (60%), which is assessed by an external examiner. Their Investigation Workbooks (40%) are assessed internally, and moderated externally. In this way the process of artistic development is considered as well as the finished product.

For Option B, the Investigation Workbook (60%) is assessed by the examiner and the Studio Work (40%) is assessed internally and moderated by the IBO.

#### Subject skills

The programme invites students to use their personal experiences as the motivation for the making of art works. Emphasis is placed upon the multicultural perspective of IB, and as a means of enriching visual understanding a variety of cultural traditions and concepts are explored. Students will be challenged to develop personal ideas and to make informed decisions about visual issues. While a variety of techniques and media will be explored, the focus is on understanding how the visual arts operate rather than just on technical skill.

## **Uses of the Subject**

The course equips candidates with the knowledge, understanding and skills to be able to access visually creative subjects at university. This includes, fine art, animation, photography, design, architecture etc.

It also provides the holistic element of the Diploma that many universities and employers seek.

## **Pre-existing requirements**

Successful students commit many hours beyond the classroom to the study of the Visual Arts in their own space in one of the Art Studios, which are busy and productive places. Having done some Art before is helpful, but it is not a necessary prerequisite - each year many students take up Visual Art who have no prior learning in the subject and still achieve good results. Speaking to some second year Visual Art students will give you an idea of the Visual Arts experience.

# THEATRE

## Subject Outline

Throughout the course you will explore why theatre is an integral part of human development, its historical background and its link between different cultures. The subject has a strong practical element and the keeping of a journal is central to recording your learning experiences and in preparation for assessed coursework. During the course you will: -

- Study at least three play texts, practitioners and styles from around the world, currently including Brazil, China, England, Italy, Nigeria, Russia, South Africa, Tanzania and the United States of America.
- Be involved in at least three public presentations as a performer and backstage/technical person.
- Develop non-performance theatre skills such as mask making, set design and stage lighting.
- Attend several public performances and workshops, working with and watching professional artists.

## Assessment Outline

### External assessment

- *Research investigation.* This is a research essay investigating an area of world theatre studies of your choice. 25% of total mark.
- *Practical performance proposal.* A proposal in words and images to suggest how you would direct a performance from a choice of stimuli provided by the IB. 25% of total mark.

### Internal assessment – teacher assessed

- *Theatre performance and production presentation.* A presentation in words and images to communicate your experiences, learning and reflections at the end of the course. 25% of total mark.
- *Independent project portfolio.* A portfolio communicating the process of a practical theatre project entirely of your choice (e.g. lighting; directing; acting etc.). 25% of total mark.

## Subject skills

You don't have to want to be a theatre artist to choose this course! There are many benefits to studying Theatre. The course aims to develop the following: -

- Increased self-confidence.
- More effective communication skills.
- Team building skills.
- Creativity and imagination.
- Performance skills (voice, movement, and characterization).
- Technical theatre skills (such as stage lighting and theatre design).
- Research skills.
- Study theatre forms and styles from around the world.
- Study theatre practitioners (actors, directors, designers etc.).

## **Uses of the Subject**

The knowledge and learning you will acquire will help you to develop as a person and make a valuable contribution to your overall IB Diploma success and the skills and knowledge gained are valued by many professions and higher learning institutions. You will also have fun in the process!

## **Pre-existing requirements**

None