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The International Baccalaureate Diploma Programme

Description
The IB Diploma is a curriculum framework designed to thoroughly prepare students for university education and beyond. The IB Diploma Programme, with its three subjects at Higher Level and three at Standard Level, requires all students to engage in the study of Languages, Sciences, Mathematics, and Humanities. In addition, the three core components of Theory of Knowledge (ToK), Creativity, Activity and Service (CAS), and the Extended Essay (EE), provide students with additional skills for future study and life balance.
Choosing an IB Diploma Programme

The two-year course comprises of six subjects chosen from groups 1-6 as indicated in the table below and the completion of the core of the programme.

At the core of the Diploma Programme are:
- Theory of Knowledge (ToK)
- Extended Essay (EE)
- Participation in Creativity, Activity and Service (CAS).

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
<th>Group 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language A - studies in language &amp; literature A: literature</td>
<td>Language Acquisition B: several years of study only</td>
<td>Individual and Societies</td>
<td>Experimental Sciences</td>
<td>Mathematics</td>
<td>The Arts</td>
</tr>
<tr>
<td>English A: literature HL/SL</td>
<td>French ab initio SL only</td>
<td>History HL/SL</td>
<td>Biology HL/SL</td>
<td>Mathematics Analysis and Approaches SL/HL</td>
<td></td>
</tr>
<tr>
<td>Self-taught language A: literature SL only</td>
<td>German B SL only</td>
<td>Psychology HL/SL</td>
<td>Chemistry HL/SL</td>
<td>Visual Arts HL/SL</td>
<td></td>
</tr>
<tr>
<td>Indonesian B SL only</td>
<td>Economics HL/SL</td>
<td>Physics HL/SL</td>
<td>Mathematics Applications and interpretations SL/HL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English B HL only or another language from group 1</td>
<td>Environmental Systems and Societies SL only</td>
<td>Music HL/SL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is also the possibility of studying other subjects online or language courses off site. For subjects available online, please see the end of the IB subject listings.

Assessment

The IB grading scale (1 – 7) is used for each subject. Theory of Knowledge and the Extended Essay are assessed A-E, contributing up to three points towards the Diploma points total. The total score is therefore out of 45. All subjects are externally examined and/or moderated. All subjects incorporate an internal assessment component, which is externally moderated to ensure that uniform standards are maintained.
IB Diploma Core Subjects

Creativity, Activity and Service (CAS)

Prerequisites: None
Level: NA
Description: This is a compulsory component of the Diploma Programme.

Aims:
+ To provide a challenge to each student in the three areas - Creativity, Activity and Service
+ To provide opportunities for service
+ To complement the academic disciplines of the curriculum and to provide balance to the demands of scholarship placed upon the IB student
+ To challenge and extend the individual by developing a spirit of discovery, self-reliance and responsibility
+ To encourage the development of students’ individual skills and interests.

Content: A student is expected to devote some hours each week to CAS. During the two years of the Diploma Programme time should be distributed between creativity, activity and service. Many activities students already do may be counted towards CAS (musical instrument, sport, community service etc.)

Assessment: Assessment in this aspect of the IB combines self and school evaluations. The nature of each is intended to develop a profile of a student’s commitment to the program and assurances that each section has been met with an appropriate balance.

Extended Essay (EE)

Prerequisites: None
Level: NA
Description: This is a compulsory component of the Diploma Programme. It is an independent research essay.

Aims: The essay is designed to provide candidates with an opportunity to engage in independent research at a significant academic level. Emphasis is placed on the process of engaging in personal research and on the communication of ideas and information in a logical and coherent manner. It acquaints students with the independent research and writing skills expected at university.

Content: The choice of subject must be taken from the list of available subjects. It is recommended that the essay be written on a topic from within one of the student’s subjects.

Assessment: The essay may be up to but not exceed 4000 words.

All Extended Essays are externally assessed by examiners by the IB against a set of criteria that are the same, regardless of the subject of the essay.
**Theory of Knowledge (TOK)**

**Prerequisites**: None

**Level**: NA

**Description**: This compulsory core component of the Diploma Programme includes a wide range of readings, discussions and activities focusing on (questions of) how we know what we claim to know. Students are encouraged to analyse knowledge claims and explore knowledge questions.

TOK is a course in critical thinking but it is one that is specifically geared to an approach to knowledge that is mindful of the interconnectedness of the modern world. “Critical” in this context implies an analytical approach prepared to test the support for knowledge claims, aware of its own weaknesses, conscious of its perspectives and open to alternative ways of answering knowledge questions. It is a demanding course but one that is an essential component not only of the Diploma Programme but of lifelong learning.

**Aims**: The aims of the Theory of Knowledge (TOK) program are for students to:
+ make connections, including between the academic disciplines and the wider world
+ develop an awareness of how individuals and communities construct knowledge and how this is critically examined
+ develop an interest in the diversity and richness of cultural perspectives and an awareness of personal and ideological assumptions
+ critically reflect on their own beliefs and assumptions
+ understand that knowledge brings responsibility which leads to commitment and action

**Content**:

**Knowers and Knowing**
+ Knowledge Questions
+ Sources of Knowledge
+ Justification of Knowledge Claims
+ Role of personal and shared knowledge
+ Perspective (own and of others)

**Ways of Knowing**
+ Language
+ Emotion
+ Imagination
+ Intuition
+ Sense Perception
+ Reason
+ Faith
+ Memory

**Areas of Knowledge (6 of these will be covered in depth (over) during the course)**
+ Mathematics
+ Natural Sciences
+ Human Sciences
+ The Arts
+ History
+ Ethics
+ Religious knowledge systems
+ Indigenous knowledge systems

**Assessment**: There are two final assessment components required by the IBO
+ **One essay** (maximum length 1600 words) on any one of the six titles prescribed by the IBO. The essay is externally assessed and carries 67% of the final mark.
+ **One oral presentation** of approximately 10 minutes (per student, max. group size 3). The presentation is internally assessed and contributes 33% of the final mark.
**LANGUAGE A: LITERATURE (ENGLISH)**

**Prerequisites:** Satisfactory completion of Year 10 Language and Literature

**Level:** Higher Level and Standard Level

**Description:** This is a pre-university course in literature. It provides opportunities for studying a range of themes and encourages independent thinking and learning.

**Aims:** The program aims to:
- Develop a personal and lasting appreciation of literature through literary study and criticism;
- Promote an international perspective through the study of literature from our own and different cultures;
- Introduce both classical and modern texts in various genres and styles;
- Create an awareness of language use and subtleties in both oral and written communication;
- Promote clarity and precision of argument in the student’s own presentations and essays.

**Content:**

<table>
<thead>
<tr>
<th>Areas of Exploration</th>
<th>Number of works</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readers, writers and texts</td>
<td>HL and SL – At least three</td>
<td>HL – 13 works; SL – 9 works. A minimum of five (HL) or four (SL) must be written originally in English; a minimum of four (HL) or three (SL) must be works in translation; four (HL) or two (SL) can be chosen freely.</td>
</tr>
<tr>
<td>Time and Space</td>
<td>HL – At least three SL – At least two</td>
<td></td>
</tr>
<tr>
<td>Intertextuality: connecting texts</td>
<td>HL – At least three SL – At least two</td>
<td></td>
</tr>
</tbody>
</table>

Higher Level and Standard Level differ in the number of texts, the depth and complexity of study and the duration of the final examinations.

**Assessment:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 1: guided literary analysis</td>
<td>HL – 2.25 hours. Students will write an analysis of two unseen texts in two literary forms. (35%) SL – 1.25 hour. Students will write an analysis of one unseen text. (35%)</td>
</tr>
<tr>
<td>Paper 2: comparative essay</td>
<td>HL and SL – 1.75 hour. Students will write a comparative essay based on two works studied in the course. (HL 25%; SL 35%)</td>
</tr>
<tr>
<td>Individual Oral</td>
<td>HL and SL – 15 minutes. Students will be asked to discuss two of the studied works in relation to a global issue present in both. A 10-minute oral presentation will be followed by 5 minutes of questioning by the teacher. (HL 20%; SL 30%)</td>
</tr>
<tr>
<td>HL essay</td>
<td>HL – Students will write a 1200 to 1500-word essay in relation to one of the texts studied during the course. (20%)</td>
</tr>
</tbody>
</table>
**LANGUAGE A: LITERATURE (SELF TAUGHT)**

**Level:** Standard Level

This course is for students who wish to study literature of their mother tongue language, other than English. Please consult with the IB Diploma Coordinator if you wish to consider this course.
LANGUAGE B ab initio – FRENCH

Prerequisites: None
Level: Standard Level

Description: The course is designed to be followed over 2 years by students who have little or no previous experience of learning the target language. The main focus is the acquisition of language for everyday social interaction.

Aims: The Language B ab initio course aims to:
+ Develop international-mindedness through the study of languages, cultures, and ideas and issues of global significance.
+ Enable students to communicate in the language they have studied in a range of contexts and for a variety of purposes.
+ Encourage, through the study of texts and through social interaction, an awareness and appreciation of a variety of perspectives of people from diverse cultures.
+ Develop students’ understanding of the relationship between the languages and cultures with which they are familiar.
+ Develop students’ awareness of the importance of language in relation to other areas of knowledge.
+ Provide students, through language learning and the process of inquiry, with opportunities for intellectual engagement and the development of critical- and creative-thinking skills.
+ Provide students with a basis for further study, work and leisure through the use of an additional language.
+ Foster curiosity, creativity and a lifelong enjoyment of language learning.

Content: Students devote equal time to 5 compulsory themes:
+ Identities
+ Experiences
+ Human ingenuity
+ Social organisations
+ Sharing the planet

Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Assessment</td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td>Exam Paper 1</td>
<td>Text production</td>
<td>25%</td>
</tr>
<tr>
<td>Exam Paper 2</td>
<td>Receptive skills</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>† Listening comprehension</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>† Reading comprehension</td>
<td>25%</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Oral Component</td>
<td>Orals to be internally assessed by the teacher and externally moderated by the IBO. Individual Oral</td>
<td>25%</td>
</tr>
</tbody>
</table>
**LANGUAGE B: GERMAN, INDONESIAN**

**Prerequisites:** Level 5 in Year 10

**Level:** Standard Level

**Description:** The course is designed for those who have 2 to 5 years' experience of the target language, are not taught other subjects in the target language and are taught outside a country where the language is spoken.

**Aims:** The Language B course aims to:

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

**Content:**

- Students devote equal time to 5 compulsory themes:
  - Identities
  - Experiences
  - Human ingenuity
  - Social organisations
  - Sharing the planet

**Assessment:**

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Assessment</strong></td>
<td></td>
<td><strong>75%</strong></td>
</tr>
<tr>
<td>Exam Paper 1</td>
<td>Text production</td>
<td>25%</td>
</tr>
<tr>
<td>Exam Paper 2</td>
<td>Receptive skills</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Listening comprehension</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Reading comprehension</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Internal</strong></td>
<td>Orals to be internally assessed by the teacher and externally moderated by the IBO. Individual Oral</td>
<td>25%</td>
</tr>
</tbody>
</table>

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**Concordia College**

**IBDP Subject Handbook 2020**
LANGUAGE B: ENGLISH

Level: Higher Level

This course is for students whose first language is not English. Please consult with the IB Diploma Coordinator if you wish to consider this course.
HISTORY

Prerequisites: None

Level: Higher Level and Standard Level

Description: History is one of the Group 3 subjects relating to Individuals and Societies. History is offered at both Standard Level and Higher Level. The two levels are taught together, as much of the content is the same.

Aims: To promote the acquisition, understanding and communication of historical knowledge of different cultures and to develop an appreciation of history as a discipline and of people living in a variety of places at different times.

Content: At Standard and Higher Level, two topics are studied:

- Prescribed Subject 3: The move to global war
- World History Topic 12: The Cold War: Superpower tensions and rivalries

Each student will be required to submit an historical investigation based on student interest.

At the Higher Level only, the course is the same as for Standard Level with the addition a regional study of aspects of the history of Europe, covering the 20th century. Three topics are studied:

- Topic 12: Imperial Russia: revolution and the Soviet Union (1855 – 1924)
- Topic 14: Europe in the interwar years (1918 – 1939)

Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Level Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 1 hour</td>
<td>Source analysis from Prescribed Subject</td>
<td>30%</td>
</tr>
<tr>
<td>Exam Paper 2 – 1.5 hours</td>
<td>Two essays from World History Topics</td>
<td>45%</td>
</tr>
<tr>
<td>The Historical Investigation</td>
<td>This is marked internally and externally moderated</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Higher Level Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 1 hour</td>
<td>Source analysis from Prescribed Subject</td>
<td>20%</td>
</tr>
<tr>
<td>Exam Paper 2 – 1.5 hours</td>
<td>Two essays from World History Topics</td>
<td>25%</td>
</tr>
<tr>
<td>Exam Paper 3 – 2.5 hours</td>
<td>Three essays from the Regional Study</td>
<td>35%</td>
</tr>
<tr>
<td>The Historical Investigation</td>
<td>This is marked internally and externally moderated</td>
<td>20%</td>
</tr>
</tbody>
</table>
PSYCHOLOGY

**Prerequisites:** None

**Level:** Higher Level and Standard Level

**Description:** The course focuses on the systematic study of behaviour and mental processes.

**Aims:** Psychology is the systematic study of behaviour and mental processes, and the factors which influence them. It has its roots in both the natural and social sciences, which leads to a variety of research designs being described and analysed. IB Psychology studies the interaction between the biological, cognitive and sociocultural influences on human behaviour, while reflecting on research methodology and ethical considerations.

**Content**

Core Topics
- Each core topic has a HL component to be addressed in addition to the material covered by SL students
- Biological approaches to understanding behaviour
- Cognitive approaches to understanding behaviour
- Sociocultural approaches to understanding behaviour

Approaches to research (HL only)
- Quantitative research
- Qualitative research

Option topics
HL students will complete 2 option topics, SL students will complete 1 option topic

Option topics include: (selection is based on teacher discretion)
- Abnormal psychology
- Psychology of human relationships
- Developmental psychology
- Health psychology

**Assessment:**

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Assessment – Higher Level</td>
<td>20%</td>
</tr>
<tr>
<td>Internal Assessment – Standard Level</td>
<td>25%</td>
</tr>
<tr>
<td>External Examination – Higher Level Assessment</td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 2 hours</td>
<td>35%</td>
</tr>
<tr>
<td>Exam Paper 2 – 2 hours</td>
<td>25%</td>
</tr>
<tr>
<td>Exam Paper 3 – 1 hour</td>
<td>20%</td>
</tr>
<tr>
<td>External Examination – Standard Level Assessment</td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 2 hours</td>
<td>50%</td>
</tr>
<tr>
<td>Exam Paper 2 – 2 hours</td>
<td>25%</td>
</tr>
</tbody>
</table>
**ECONOMICS**

**Prerequisites:** None

**Level:** Standard Level or Higher Level

**Description:** The IB Diploma Programme economics course emphasizes the economic theories of microeconomics, which deal with economic variables affecting individuals, firms and markets, and the economic theories of macroeconomics, which deal with economic variables affecting countries, governments and societies. These economic theories are not to be studied in a vacuum—rather, they are to be applied to real-world issues. Prominent among these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability.

The economics course encourages students to develop international perspectives, fosters a concern for global issues, and raises students’ awareness of their own responsibilities at a local, national and international level. The course also seeks to develop values and attitudes that will enable students to achieve a degree of personal commitment in trying to resolve these issues, appreciating our shared responsibility as citizens of an increasingly interdependent world.

**Content:**
- **Section 1: Microeconomics**
- **Section 2: Macroeconomics**
- **Section 3: International Economics**
- **Section 4: Development Economics**

Students undertaking Economics at HL will be required to complete additional course content within each of sections.

**Assessment:**

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Level Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 1.5 hours</td>
<td>Extended Response on Sections 1 and 2</td>
<td>40%</td>
</tr>
<tr>
<td>Exam Paper 2 – 1.5 hours</td>
<td>Data Response on Sections 3 and 4</td>
<td>40%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>Three commentaries based on different sections of the syllabus and on published extracts from the news media</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Higher Level Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam Paper 1 – 1.5 hours</td>
<td>Extended Response on Sections 1 and 2</td>
<td>30%</td>
</tr>
<tr>
<td>Exam Paper 2 – 1.5 hours</td>
<td>Data Response on Sections 3 and 4</td>
<td>30%</td>
</tr>
<tr>
<td>Exam Paper 3 – 1 hour</td>
<td>Short answer on all syllabus content</td>
<td>20%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>Three commentaries based on different sections of the syllabus and on published extracts from the news media</td>
<td>20%</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL SYSTEMS AND SOCIETIES

Prerequisites: None

Level: Standard Level

Description: ESS is an interdisciplinary group 3 and 4 course that is designed to combine the methodology, techniques and knowledge associated with group 4 (sciences) with those associated with group 3 (individuals and societies). Due to the structure of the course, students can count ESS as either a group 3 or 4 course, or as both.

ESS is a complex course, requiring a diverse set of skills from its students. It is firmly grounded in both a scientific exploration of environmental systems in their structure and function and in the exploration of cultural, economic, ethical, political, and social interactions of societies with the environment. As a result of studying this course, students will become equipped with the ability to recognize and evaluate the impact of our complex system of societies on the natural world. The interdisciplinary nature of the course requires a broad skill set from students and includes the ability to perform research and investigations and to participate in philosophical discussion.

The course requires a systems approach to environmental understanding and problem-solving, and promotes holistic thinking about environmental issues. It is recognized that to understand the environmental issues of the 21st century and suggest suitable management solutions, both the human and environmental aspects must be understood. Students should be encouraged to develop solutions from a personal to a community and to a global scale. Through the exploration of cause and effect, the course investigates how values interact with choices and actions, resulting in a range of environmental impacts. Students develop an understanding that the connections between environmental systems and societies are diverse, varied and dynamic.

Content:
Topic 1: Foundations of environmental systems and societies
Topic 2: Ecosystems and ecology
Topic 3: Biodiversity and conservation
Topic 4: Water and aquatic food production systems and societies
Topic 5: Soil systems and terrestrial food production systems and societies
Topic 6: Atmospheric systems and societies
Topic 7: Climate change and energy production
Topic 8: Human systems and resource use

Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Exam</td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td>Paper 1 – 1 hour</td>
<td>Case Study</td>
<td>25%</td>
</tr>
<tr>
<td>Paper 2 – 2 hours</td>
<td>Short Answer questions Two essays</td>
<td>50%</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>Individual investigation</td>
<td>25%</td>
</tr>
</tbody>
</table>
**BIOLOGY**

**Assumed Knowledge:** Successful completion of Year 10 Science

**Level:** Standard Level or Higher Level

**Description:** Biology is one of the Group 4 subjects relating to Experimental Sciences. The two levels are taught together as much as possible as much of the content is the same.

**Aims:** To provide students with a rigorous pre-university course of study in Biology that develops intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

**Content:** The SL course contains 110 hours of theory and 40 hours of practical work. The HL course contains 180 hours of theory and 60 hours of practical work.

**Core for both SL and HL (95 hours)**
+ Cell biology
+ Molecular biology
+ Genetics
+ Ecology
+ Evolution and biodiversity
+ Human physiology

**Additional Higher Level (60 hours)**
(more detailed coverage)
+ Nucleic acids
+ Metabolism, cell respiration and photosynthesis
+ Plant biology
+ Genetics and evolution
+ Animal physiology

**Option topic – 1 only (15 hours SL / 25 hours HL)**
+ Biotechnology and bioinformatics
+ Neurobiology and behaviour
+ Ecology and conservation
+ Human physiology
## Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Exam – Standard Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 45 minutes</td>
<td>30 multiple choice questions on the core</td>
<td></td>
</tr>
<tr>
<td>Paper 2 – 1.25 hours</td>
<td>Short-answer and extended-response questions on the core</td>
<td></td>
</tr>
<tr>
<td>Paper 3 – 1 hour</td>
<td>Questions on the core and option material.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Section A:</strong> one data-based question and several short-answer questions on experimental work.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Section B:</strong> short-answer and extended-response questions from one option.</td>
<td></td>
</tr>
<tr>
<td><strong>External Exam – Higher Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 1 hour</td>
<td>40 multiple choice questions (15 common to SL plus additional questions on the core and the AHL material).</td>
<td></td>
</tr>
<tr>
<td>Paper 2 – 2.25 hours</td>
<td>Short-answer and extended-response questions on the core and the AHL</td>
<td></td>
</tr>
<tr>
<td>Paper 3 – 1.25 hours</td>
<td>Questions on the core, AHL and option material.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Section A:</strong> one data-based question and several short-answer questions on experimental work.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Section B:</strong> short-answer and extended-response questions from one option.</td>
<td></td>
</tr>
<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An internal assessment</td>
<td>An individual investigation</td>
<td>20%</td>
</tr>
</tbody>
</table>
CHEMISTRY

Prerequisites: Completion of Year 10 Science (Chemistry topics) (Grade 5 or better).

Level: Standard Level or Higher Level

Description: Chemistry is one of the Group 4 subjects relating to Experimental Sciences. The two levels are taught together as much as possible as much of the content is the same.

Aims: To provide students with a rigorous pre-university course of study in Chemistry that develops intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

Content: The SL course contains 110 hours of theory and 40 hours of practical work. The HL course contains 180 hours of theory and 60 hours of practical work.

Core for both SL and HL
+ Stoichiometric relationships
+ Atomic structure
+ Periodicity
+ Chemical bonding and structure
+ Energetics/thermochemistry
+ Chemical Kinetics
+ Equilibrium
+ Acids and bases
+ Redox processes
+ Organic chemistry
+ Measurement and data processing

Additional Higher Level (more detailed coverage)
+ Atomic structure
+ The periodic table – the transition metals
+ Chemical bonding and structures
+ Energetics/thermochemistry
+ Chemical Kinetics
+ Equilibrium
+ Acids and bases
+ Redox processes
+ Organic chemistry
+ Measurement and data analysis

SL/HL option topics (15/25 hours each)
One topic from the following:
+ Human biochemistry
+ Modern analytical chemistry
+ Chemistry in industry and technology
+ Medicines and drugs
+ Environmental chemistry
+ Food chemistry
### Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Exam Standard Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 - 45 minutes</td>
<td>30 multiple choice questions</td>
<td></td>
</tr>
<tr>
<td>Paper 2 - 1.25 hours</td>
<td>Short-answer and extended-response questions on the core</td>
<td></td>
</tr>
<tr>
<td>Paper 3 - 1 hour</td>
<td>Questions on the core and option material.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Section A</strong>: one data-based question and several short-answer questions on experimental work.</td>
<td></td>
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<tr>
<td></td>
<td><strong>Section B</strong>: short-answer and extended-response questions from one option.</td>
<td></td>
</tr>
<tr>
<td><strong>External Exam Higher Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 - 1 hour</td>
<td>40 multiple choice questions (15 common to SL plus additional questions on the core and the AHL material).</td>
<td></td>
</tr>
<tr>
<td>Paper 2 - 2.25 hours</td>
<td>Short-answer and extended-response questions on the core and the AHL</td>
<td></td>
</tr>
<tr>
<td>Paper 3 - 1.25 hours</td>
<td>Questions on the core, AHL and option material.</td>
<td></td>
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<tr>
<td></td>
<td><strong>Section A</strong>: one data-based question and several short-answer questions on experimental work.</td>
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<td><strong>Section B</strong>: short-answer and extended-response questions from one option.</td>
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<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An internal assessment</td>
<td>An individual investigation</td>
<td>20%</td>
</tr>
</tbody>
</table>
PHYSICS

**Prerequisites:** Completion of Year 10 Science (Physics topics) and Mathematics (Grade 5 or better)

**Level:** Standard Level or Higher Level

**Description:** Physics is one of the Group 4 subjects relating to Experimental Sciences. The two levels are taught together as much as possible as much of the content is the same.

**Aims:** To provide students with a rigorous pre-university course of study in Physics that develops intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

**Content:** The SL course contains 110 hours of theory and 40 hours of practical work. The HL course contains 180 hours of theory and 60 hours of practical work.

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

**Additional Higher Level**
- Wave phenomena
- Fields
- Electromagnetic induction
- Quantum and nuclear physics

**Option to be select from:**
- Relativity
- Engineering physics
- Imaging
- Astrophysics
## Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Format of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Exam</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Standard Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 45 minutes</td>
<td>30 multiple choice questions</td>
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</tr>
<tr>
<td>Paper 2 – 1.25 hours</td>
<td>Short-answer and extended-response questions on the core</td>
<td></td>
</tr>
<tr>
<td>Paper 3 – 1 hour</td>
<td>Questions on the core and option material.</td>
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</tr>
<tr>
<td></td>
<td>Section A: one data-based question and several short-answer questions on experimental work.</td>
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</tr>
<tr>
<td></td>
<td>Section B: short-answer and extended-response questions from one option.</td>
<td></td>
</tr>
<tr>
<td><strong>Higher Level</strong></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 1 hour</td>
<td>40 multiple choice questions (15 common to SL plus additional questions on the core and the AHL material).</td>
<td></td>
</tr>
<tr>
<td>Paper 2 – 2.25 hours</td>
<td>Short-answer and extended-response questions on the core and the AHL.</td>
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</tr>
<tr>
<td>Paper 3 – 1.25 hours</td>
<td>Questions on the core, AHL and option material.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Section A: one data-based question and several short-answer questions on experimental work.</td>
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<tr>
<td></td>
<td>Section B: short-answer and extended-response questions from one option.</td>
<td></td>
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<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An internal assessment</td>
<td>An individual investigation</td>
<td>20%</td>
</tr>
</tbody>
</table>
Mathematics

Mathematics: analysis and approaches

This course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series at both SL and HL, and proof by induction at HL.

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

Mathematics: analysis and approaches: Distinction between SL and HL

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

Mathematics: applications and interpretation

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

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

Mathematics: applications and interpretation: Distinction between SL and HL

Students who choose Mathematics: applications and interpretation at SL or HL should enjoy seeing mathematics used in real-world contexts and to solve real-world problems. Students who wish to take Mathematics: applications and interpretation at higher level will have good algebraic skills and experience of solving real-world problems. They will be students who get pleasure and satisfaction when exploring challenging problems and who are comfortable to undertake this exploration using technology.
**Aims:** The aims of all DP mathematics courses are to enable students to:
+ develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
+ develop an understanding of the concepts, principles and nature of mathematics
+ communicate mathematics clearly, concisely and confidently in a variety of contexts
+ develop logical and creative thinking, and patience and persistence in problem solving to instil confidence in using mathematics
+ employ and refine their powers of abstraction and generalization
+ take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
+ appreciate how developments in technology and mathematics influence each other
+ appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
+ appreciate the universality of mathematics and its multicultural, international and historical perspectives
+ appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course
+ develop the ability to reflect critically upon their own work and the work of others
+ independently and collaboratively extend their understanding of mathematics.

**Prerequisites for both Analysis and Approaches and Applications and Interpretation**

**Higher Level:** Grade 6/7 in Year 10 Mathematical Studies (Extension) and a Level 7 or better in Criterion A

**Standard Level:** Grade 6 in Year 10 Mathematical Studies and a Level 6 or better in Criterion A

**Content:** Analysis and Approaches and Applications and Interpretation
Both the HL and SL streams for both courses consist of a combination of the following topics:
+ Topic 1: Number and algebra
+ Topic 2: Functions
+ Topic 3: Geometry and trigonometry
+ Topic 4: Statistics and probability
+ Topic 5: Calculus

The toolkit and the mathematical exploration - Investigative, problem-solving and modelling skills development leading to an individual exploration. The exploration is a piece of written work that involves investigating an area of mathematics.
**Assessment:** Analysis and Approaches and Applications and Interpretation  
Both the HL and SL assessments for both streams consist of the following for each level:

### Standard Level

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External assessment (3 hours)</strong></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 1.5 hours</td>
<td>40%</td>
</tr>
<tr>
<td>No technology allowed. (80 marks)</td>
<td></td>
</tr>
<tr>
<td>Paper 2 – 1.5 hours</td>
<td>40%</td>
</tr>
<tr>
<td>Technology required. (80 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Internal assessment</strong></td>
<td>20%</td>
</tr>
</tbody>
</table>
| 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 is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks) |           |

### Higher Level

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External assessment (5 hours)</strong></td>
<td>80%</td>
</tr>
<tr>
<td>Paper 1 – 2 hours</td>
<td>30%</td>
</tr>
<tr>
<td>No technology allowed. (110 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Section A:</strong> Compulsory short-response questions based on the syllabus.</td>
<td></td>
</tr>
<tr>
<td><strong>Section B:</strong> Compulsory extended-response questions based on the syllabus.</td>
<td></td>
</tr>
<tr>
<td>Paper 2 – 2 hours</td>
<td>30%</td>
</tr>
<tr>
<td>Technology required. (110 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Section A:</strong> Compulsory short-response questions based on the syllabus.</td>
<td></td>
</tr>
<tr>
<td><strong>Section B:</strong> Compulsory extended-response questions based on the syllabus.</td>
<td></td>
</tr>
<tr>
<td>Paper 3 – 1 hours</td>
<td>20%</td>
</tr>
<tr>
<td>Technology required. (55 marks)</td>
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<tr>
<td>Two compulsory extended response problem-solving questions.</td>
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</tr>
<tr>
<td><strong>Internal assessment</strong></td>
<td>20%</td>
</tr>
</tbody>
</table>
| 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 is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks) |           |
MUSIC

Prerequisites: Completion of Year 10 Music (Level 5 or better) and proficiency as an instrumentalist or vocalist.

Level: Standard Level, Higher Level

Description: Students need to receive specialist instrumental tuition on an individual basis if they wish to do HL Music or SL Solo Performance. At Higher Level, specialist music students prepare for tertiary study at university.

Aims: The aims of all subjects in group 6 are to enable students to:
+ Enjoy lifelong engagement with the arts
+ Become informed, reflective and critical practitioners in the arts
+ Understand the dynamic and changing nature of the arts
+ Explore and value the diversity of the arts across time, place and vultures
+ Express ideas with confidence and competence
+ Develop perceptual and analytical skills.

The aim of the music course at Standard Level and Higher Level is to enable students to:
+ Develop their knowledge and potential as musicians, both personally and collaboratively.

Content:
Higher Level
Three compulsory parts:
+ Musical perception (Prescribed work, musical styles and genres and a Musical Investigation which is an independent major research project).
+ Solo Performance: instrumental or vocal recitals
+ Creating: three contrasting compositions or arrangements.

Standard Level
Students with a background in music study and proficiency on an instrument may choose one of the following options:
+ Solo Performance which comprises Musical Perception and analysis and a Solo Performance (voice or instrument) or one or more recitals.

or
+ Creating which comprises Musical Perception and Analysis and the creation of two contrasting works.

Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Higher Level</th>
<th>Standard Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Assessment</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Listening Paper Examination</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>A Musical Investigation (2000 words)</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Solo Performance</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Creating</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>A Musical Investigation</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Solo Performance or Creating</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
VISUAL ARTS

Prerequisites: Year 10 Visual Art or Year 10 Art Design are an advantage.

Level: Standard Level and Higher Level

Description: The course consists of three interrelated areas; communicating visual arts, visual arts in context and visual arts methods. Students are required to investigate these three areas through exploration of theoretical practice, art-making practice and curatorial practice. Art-making practice involves practical exploration and artistic production. Theoretical practice involves evaluating, responding and investigating the work of others and their own in both visual and written form. Curatorial practice involves students developing artistic judgement in presenting and selecting their own work.

Aims: The aims of the visual arts course are to enable students to:
+ Be informed and investigate the wider world of visual arts to understand and appreciate cultural context within which they produce their own work.
+ Think critically and experiment with techniques.
+ Explore and acquire skills, techniques and processes with a variety of media to develop concepts.
+ Understand how a body of artwork can communicate meaning and purpose for different audiences.
+ Investigate, understand and apply the processes of selecting work for exhibition and public display.
+ Engage in making decisions about the selection of their own work.

Content: This course is designed to equip students with the skills and knowledge needed to explore their potential for personal expression and to be able to compare works from differing cultural contexts. During the first year of the Visual Arts course, students will be introduced to art concepts and techniques looking at a minimum of three art-making forms and participating in exhibition visits. The second year of the course is student-centred with the teacher facilitating the student's work through independent investigation and the production of a body of work leading to the students final curating of their own exhibition.

Assessment:

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Study</td>
<td>20%</td>
</tr>
<tr>
<td>Process Portfolio</td>
<td>40%</td>
</tr>
<tr>
<td>Exhibition</td>
<td>40%</td>
</tr>
</tbody>
</table>
IBDIPLOMA ONLINE COURSES

In an ongoing effort to offer as wide as possible a range of IB Diploma courses available to our students, Concordia facilitates online courses delivered by Pamoja Education. Course options and descriptions are available from the IB Diploma Coordinator.

Students who participate in online IB Diploma courses must exhibit a high degree of personal responsibility, be self-disciplined and motivated to succeed, with very good organizational and time management skills.

Application to study an online course must be approved by the IB Diploma Coordinator.