



# **QAS Diploma & IB Diploma**

**Courses  
Guide 2019-21**

**Grades 11 & 12**



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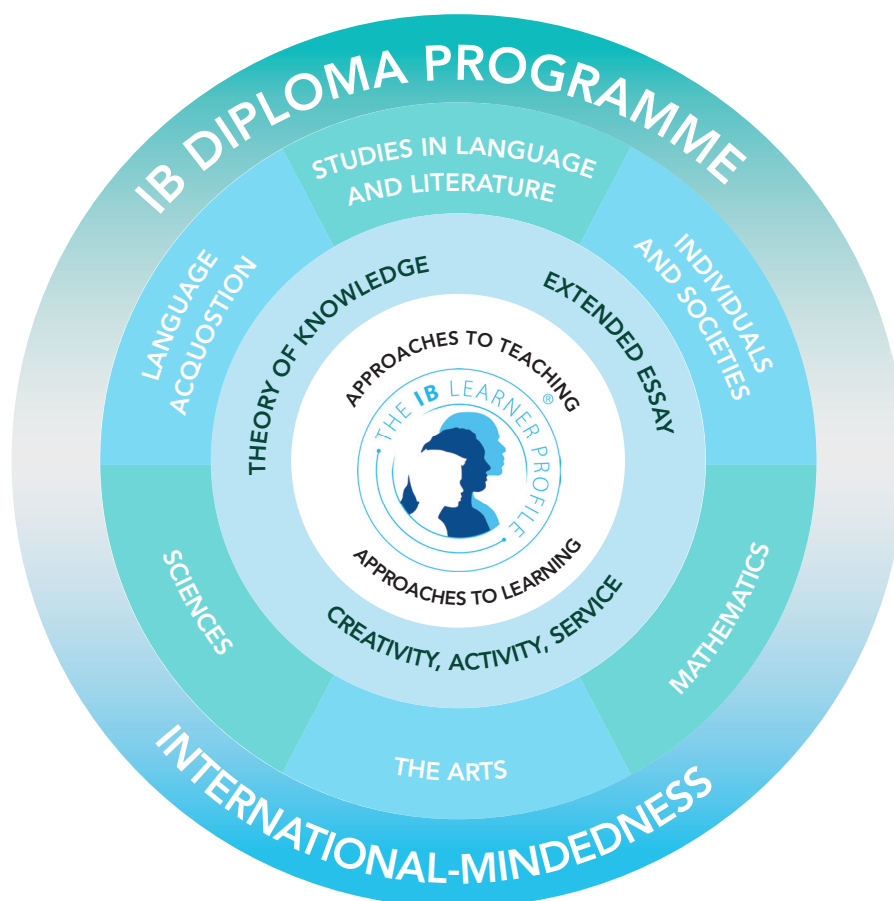


# The International Baccalaureate Diploma Programme

Over  
**2500**  
universities worldwide  
recognize the IB

**77%**  
of IB DP students are  
admitted to their first  
choice university

The IB Diploma Programme is a challenging two-year curriculum, primarily aimed at students aged 16 to 19. It leads to a qualification that is widely recognized by the world's leading universities. IB DP students also graduate with the QAS High School Diploma. The curriculum contains six subject groups together with a core made up of three separate parts; each course or subject is integrated with a range of approaches to learning. This is illustrated by the diagram below.





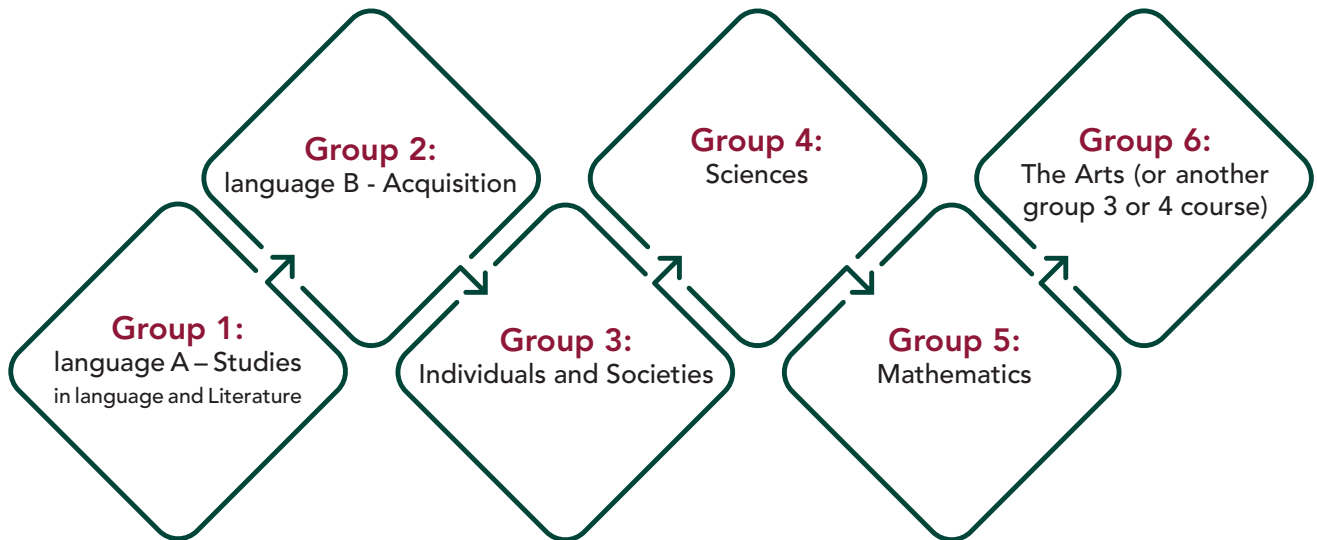


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The 6 subject areas are:



# The International Baccalaureate Diploma Programme

All three parts of the core—extended essay, theory of knowledge and creativity, action, service—are compulsory to the full DP and are central to the philosophy of the Diploma Programme. They can also be taken as individual courses by part-Diploma students.

Candidates for the full IB Diploma study one subject selected from each of the six subject groups.

For full IB Diploma students three subjects are studied at Higher Level (HL) and the remaining three subjects are studied at Standard Level (SL). Students will study some HL material within each class, where available, during the first semester. This gives students and teachers time to make an informed decision about which classes to continue for the full 2 years at HL, and which to continue at SL. Please note; some subjects are only offered at Standard Level.

At the end of the two-year programme, candidates are assessed both internally and externally in ways that measure individual performance against stated objectives for each subject.

IB Diploma students are scheduled for their six chosen subject classes, plus a combined class for Theory of Knowledge and the Extended Essay. CAS is completed outside of normal schedules. There will be a number of study blocks during which students will learn to manage their own time and learning.

## Entry requirements for the full IB Diploma:

Completion of the full IB Middle Years Programme including the Personal Project with a minimum of 40 points including a minimum of grade 4 in Personal Project. Entry requirements will also include teacher recommendation, student interview, student interests, and parental input.

Each of the 6 subjects are graded from a low of 1 to a high of 7, with the points being accrued to create a potential of 42. There are three further points available from the EE and ToK making a grand total of 45 points.





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In order to attain the IB Diploma a candidate must fulfill a number of requirements, including:

- 24 points in total,
- At least 12 points from the 3 Higher Level (HL) courses
- At least 9 points from the 3 Standard Level (SL) courses
- A grade A-D in Theory of Knowledge (ToK) and the Extended Essay (EE)
- Complete the Creativity, Activity & Service (CAS) requirements

Students who successfully complete the Arabic A: language and literature course in can be awarded a Bilingual Diploma.





# The Qatar Academy Sidra High School Diploma

**QAS is an inclusive school. We guide students on to the appropriate pathway towards achieving their potential.**

The QAS Diploma is a full American High School Diploma qualification accredited by the Council of International Schools (CIS) and the New England Association of Schools and Colleges (NEASC) in the United States, and the State of Qatar's Ministry of Education and Higher Education.

There are currently three pathways to graduation with this diploma. They share the same QAS graduation requirements, but differ in the number of IBDP examinations that a student may also take. All pathways lead students to graduate with a QAS Diploma and transcript of results. Almost all students are in the IB Diploma Programme; there are varying levels of completion required, according to each student's abilities and potential. The QAS school profile that goes to colleges or universities shows that our students take these rigorous IB courses.

Graduation requirements for the QAS High School Diploma, tracks 3-1: To graduate from QAS, a student must earn a total of 24 credits from Grades 12-9, including at least the following number of credits in each subject area:

Course	Credit Years
English	4
Mathematics	4
Additional language	3
Science	4
Social Studies	3
PE and Health	2
Qatar History	0.25
Islamic Studies	2
Electives	3.25



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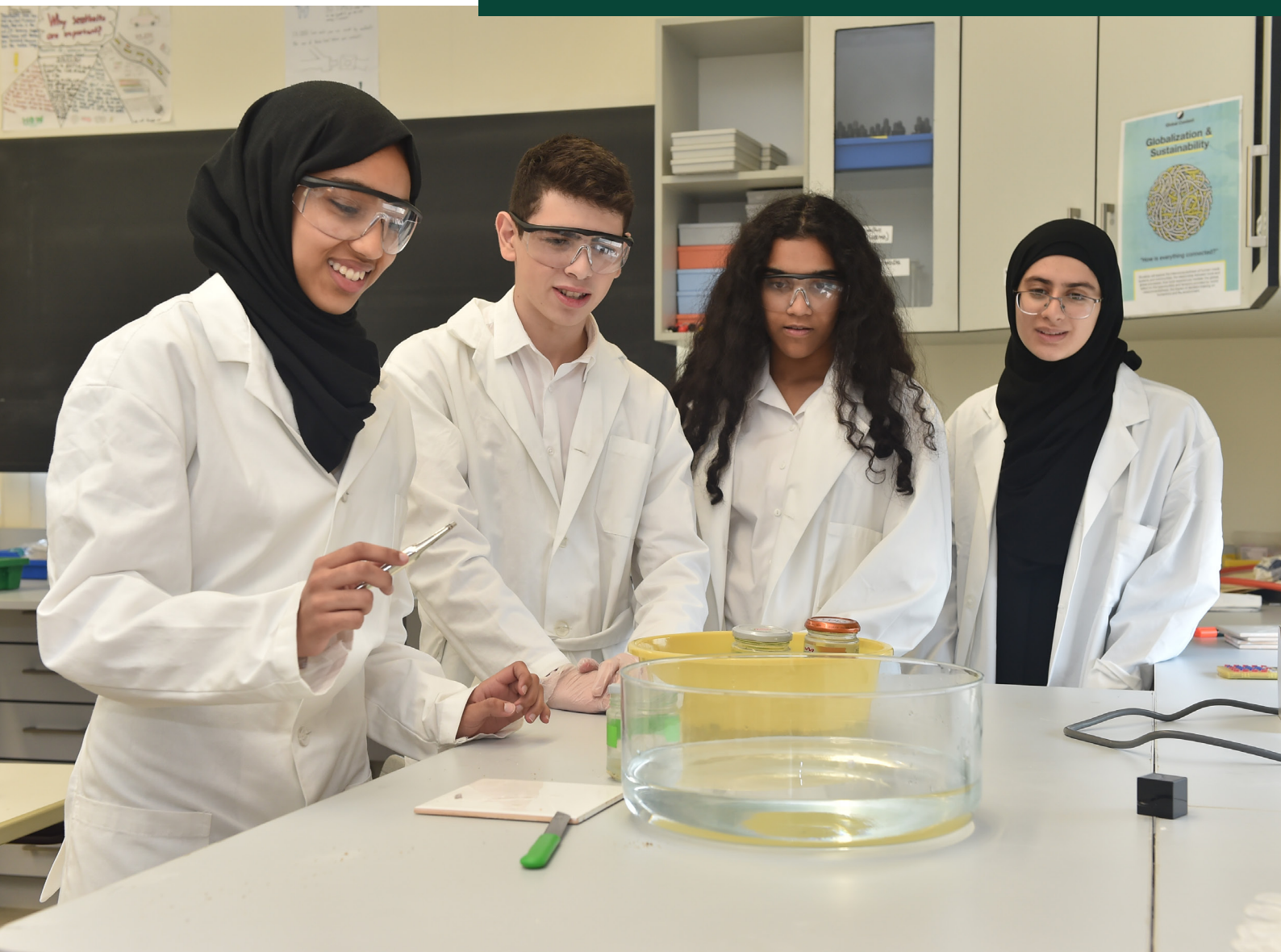
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### Pathway 1:

QAS HS Diploma with full IB Diploma. Students on this pathway conform to all the DP requirements detailed on the preceding page, earning an IB Diploma.

### Pathway 2:

QAS HS Diploma with DP courses on an IB certificate. Students on this pathway take a minimum of five classes for the two years of Grades 11 and 12. Most of these classes will be from the IB Diploma Programme; the same lessons, syllabi, materials and in-school assessments as full IB Diploma students. Students then elect to sit examinations in three to six of these subjects at the end of Grade 12 and then receive a certificate of results from the IB.



# The Qatar Academy Sidra High School Diploma

## Pathway 3:

QAS HS Diploma These students may choose to take one or two IB DP examinations and receive a certificate of results, similar to Pathway 2, but are not required to take any.

## Entry requirements for pathways 1, 2 and 3:

Completion of the full IB MYP Programme with a minimum of 30 points, as well as success in the Personal Project. QAS is an inclusive school and as such we also consider teacher recommendation, student interview, student interests, and parental input when guiding students on to the appropriate pathway.

## Higher and Standard level classes in Pathways 2 and 3:

There are no rules about the combination of SL and HL examinations for students in Pathways 2 or 3. Most students will take Standard Level examinations in their chosen subjects. Some students may want to take a Higher Level class in the hope of attaining a grade 4 or higher because some US colleges or universities may credit this as a first-year equivalent.

Decisions regarding IB DP examination entry and resulting qualifications are taken in the second month of Grade 12.

## Additional High School class options include:

Physical Health Education, Social Studies, Qatar National Studies, Islamic Studies or Cultural Studies.

QAS does not calculate or publish a GPA (grade point average).

## Pathway 4:

This route to graduation is being developed as part of QAS's commitment to inclusive education. Students and families will be able to work with the school to develop bespoke pathways to graduation.





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## Groups 1 and 2:

### *Languages:*

Language and Literature, & Language Acquisition - English, Arabic, Spanish

**“English boosted my communication skills. The discussions in class were truly eye-opening.” Maab El Tayeb**

*“The study of texts, both literary and non-literary, provides a focus for developing an understanding of how language works to create meanings in a culture, as well as in particular texts. All texts may be understood according to their form, content, purpose and audience, and through the social, historical, cultural and workplace contexts that produce and value them.”*





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**Language A** is a class for students who are sufficiently fluent in English or Arabic as an academic language, not just a language of social and family conversation. The course develops the student's ability to read, write, listen and speak to a high level of academic fluency. Language A: Language and Literature consists of four parts:

### — Language in a cultural context

This unit means looking at such things as audience, political speeches, new electronic communication, changes in vocabulary and the evolution of languages, taboo, translation, jargon, gender and political bias in language.

### — Language and mass communication

In part 2, students consider the way language is used in the media. Mass media includes newspapers, magazines, the internet, film and propaganda.

### — Texts and contexts

Meaning in a text is shaped by culture and by the contexts and circumstances of its production. Meaning is also shaped by what the reader brings to the text. Through the close reading of literary texts, students are able to explore the relationship between literature and issues at large, such as gender, power and identity

### — Critical study of literature

Close reading is considered to be a core skill in the understanding and interpretation of literature. By looking closely at the detail of literary texts, students develop an awareness of their rich complexities and the intricacies of their construction. English texts studied include:

- To Kill a Mockingbird by Harper Lee Poetry by David Walcott
- In Search of Our Mother's Gardens by Alice Walker
- Dust Tracks on a Road by Zora Neale Hurston
- Americanah by Chimamanda Adichie (HL)
- The New Jim Crow: Mass Incarceration in the Age of Colorblindness by Michelle Alexander (HL)



# Groups 1 and 2:

## Languages:

Language and Literature, & Language Acquisition - English, Arabic, Spanish

**Language B** is a class for students who are learning to speak, read and write in this foreign language.

The IB Coordinator, in conjunction with teachers, is responsible for the placement of students.

*"The degree to which students are already competent in the language and the degree of proficiency they wish to attain by the end of the period of study are the most important factors in identifying the appropriate course... The most important consideration is that the course should be a challenging educational experience for the student." – IB DP Language B subject guide*

Elements of language skills that will be assessed, acquired and developed at all levels include vocabulary, grammatical structures, register, pronunciation and intonation

Language acquisition will be achieved through three key skills and competencies (as defined by the Council of Europe).

— **Receptive skills** are the ability to comprehend written and spoken language, its message, and its cultural and contextual connotations.

— **Productive skills** are the ability to write and speak the target language effectively, to write and speak coherently and in a way that is appropriate to context and purpose.

— **Interactive skills** are the ability to understand and respond effectively to written and spoken language.

The IBDP has two Language Acquisition classes: B and Ab Initio Language B is offered in English, Arabic and Spanish. Ab Initio is offered in Spanish classes at QAS and, for an extra fee payable by parents, in French and Mandarin, via the online IBDP course provider Pamoja.



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Language B is available at either HL or SL. Two works of literature are studied at HL only. Language Ab Initio is SL only.



## Group 3:

# Individuals and Societies

*"Business studies is probably one of the most useful subjects for later life because it teaches you how to deal with finances, organization, planning tools and more. But there a lot of vocabulary and concepts that have to be memorized."*

- Lyna Bermak

## Economics

*"The IB Diploma Programme economics course emphasizes the economic theories of microeconomics, which deals 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." - IB DP subject guide for Economics*

The syllabus consists of four sections, each section is covered by both SL and HL students, but HL students learn about additional areas within each section.

**Microeconomics Competitive markets:** demand and supply elasticity, government intervention, market failure, and market structures.

**Macroeconomics: the level of overall economic activity,** aggregate demand and aggregate supply, macroeconomic objectives, fiscal policy, monetary policy, supply-side policies.

**International economics** International trade, exchange rates, the balance of payments, economic integration, terms of trade.

Development economics: Economic development, measuring development, the role of domestic factors, the role of international trade (one topic HL





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extension), the role of foreign direct investment (FDI), the roles of foreign aid and multilateral development assistance, the role of international debt, the balance between markets and intervention.

**Internal assessment:** portfolio the students produce a portfolio of three commentaries based on different sections of the syllabus and on published extracts from the news media.



# Group 3:

## *Individuals and Societies*

### **Business management**

*"Business management is a rigorous, challenging and dynamic discipline in the individuals and societies subject group. The role of businesses, as distinct from other organizations and actors in a society, is to produce and sell goods and services that meet human needs and wants by organizing resources. Profit-making, risk-taking and operating in a competitive environment characterize most business organizations." - DP subject guide for Business Management*

This course is designed to develop students' knowledge and understanding of business management theories, as well as their ability to apply a range of tools and techniques. Students learn to analyze, discuss and evaluate business activities at local, national and international levels.

### **The course covers**

- The key characteristics of business - organization and environment
- Human resource management
- Finance and accounts
- Marketing - operations management. Links between the topics are central to the course.

Through the exploration of six underpinning concepts (change, culture, ethics, globalization, innovation and strategy). The course allows students to develop a holistic understanding of today's complex and dynamic business environment. This conceptual learning is firmly anchored in business management theories, tools and techniques and placed in the context of real world examples and case studies.





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## Examinations for Economics and Business

### SL:

two written examinations totaling three hours and worth 75-80% of the grade, one internal assessment portfolio worth 20-25%.

### HL:

three written examinations totaling 4 or 4.5 hours and worth 75-80% of the grade, one internal assessment portfolio worth 20-25%.





## Group 3: *Individuals and Societies*

### History

*"History is more than the study of the past. It is the process of recording, reconstructing and interpreting the past through the investigation of a variety of sources." - IB DP subject guide for History*

Historical studies involve both the selection and interpretation of data and the critical evaluation of it, through both primary historical sources and the work of historians. You will learn information and time management, critical thinking and analytical skills. You will improve your verbal and written literacy and develop your independent viewpoints.

At QAS the DP History Course is designed to offer a comprehensive survey of key events of the 20th Century.

At the Standard Level, students will develop their historical and research skills while examining three authoritarian states; each from a different region, the theme of "Rights and Protest" by examining two case studies, South Africa and the USA, and by studying the history of the Cold War between the USA and the Soviet Union.

At the Higher Level, students will focus on the History of the Americas. In addition to all SL content, students will study the emergence of the Americas in Global Affairs, the First World War, the Americas and the Second World War, and take a more in depth look at civil rights and social protest movements in the Americas post-1945.



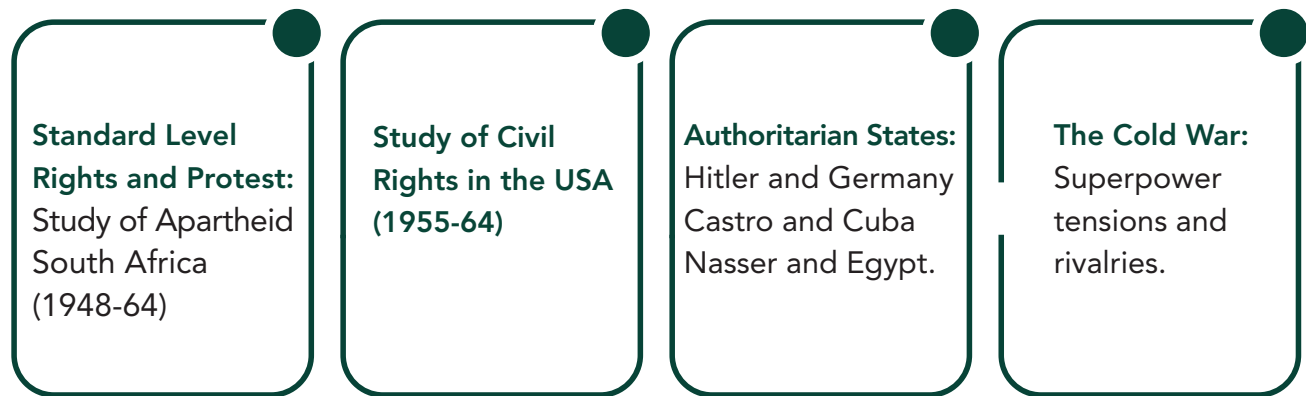
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## The course is structured as follows:



Higher Level also includes Emergence of the Americas in Global Affairs US expansionism Spanish-American War US and the Americas in the First World War, The Second World War and the Americas Impact on two countries in the Americas, Social impact/impact on women and minorities, Use of atomic weapons against Japan, Civil Rights and Social Movements in the Americas post 1945 Rights of indigenous peoples in the Americas, African-Americans and the Civil Rights Movement, Hispanic-American movement, Feminism in the Americas.

Examinations and Grades SL: Two examination papers totaling two hours 30 minutes and worth %75 of the final grade, one internal assessment in the form of a 20 hour historical investigation, worth %25 of the grade. HL: Three examination papers totaling 5 hours, worth %80 of the final grade, one internal assessment -20hour historical investigation, worth %20 of the grade.

## Group 3:

# Individuals and Societies

*“At the beginning, I was reluctant to study online, but Pamoja Psychology was a completely different experience. I got to create new relationships with teachers and students on the opposite side of the world.” – Maab El Tayeb*

### Psychology -probably online

The IB DP Psychology course adopts an integrative approach, looking at the interaction between biological, cognitive and sociocultural influences on human behavior. The ethical concerns raised by the methodology and application of psychological research are also key considerations.

#### Part 1:

**The Core** of the course introduces students to the three fundamental influences on human behavior: **biological, cognitive and sociocultural**. Students also learn about research methods for understanding human behavior.

#### Topics include:

- The brain and behavior
- Hormones and pheromones and behavior
- Genetics and behavior
- Cognitive influences on behavior

#### The individual and the group:

- Cultural influences on behavior.
- Qualitative and quantitative research methods.

#### HL only:

- The role of animal research in understanding human behavior.





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## Part 2:

**Options** are offered to students to provide continuity with the historical and contemporary studies of human behavior. Students are introduced to the developing fields in psychology. Students are invited to consider four options:

- Abnormal psychology
- Developmental psychology
- Health psychology
- Psychology of human relationships

## Part 3:

**Simple experimental study** students are required to plan and undertake a simple experimental study and to produce a report of their study.

## Examinations

### At SL:

two exams totaling 3 hours (worth 75%) and an internal assessment report.

### At HL:

three exams totaling 5 hours (worth 80%) and an internal assessment report.



## Group 3: *Individuals and Societies*

### **ITGS Information Technology in a Global Society - online only**

Students will learn information technology skills and concepts, although **ITGS is not a computer skills course.**

Students will analyze and evaluate the social impact of information technology on individuals and society and consider the ethical issues raised by this impact. Issues such as reliability, integrity, privacy and anonymity, intellectual property, equality of access, control, and policies and standards will be analyzed from both local and global perspectives recognizing that attitudes and opinions are diverse within and between different cultures.

**Course content includes three elements, studied in an integrated way, and a project:**

#### **Social and ethical significance**

**Content includes:** reliability, integrity, security, privacy and anonymity, authenticity, intellectual property, equality of access, control, surveillance, globalization and cultural diversity, policies and standards, people and machines, digital citizenship. HL students also study these issues through a case study.

#### **Application to specific scenarios**

**Content includes:** business and employment, education, environment, health, home and leisure, politics and government. HL students also study two extension topics based on real-life scenarios.

#### **IT systems**

The terminology, concepts and tools relating to specified IT developments are studied using the following topics: hardware, software, networks, internet, personal and public communications, multimedia/digital media, databases, spreadsheets, modeling and simulations, introduction to project management.



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## The project

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





## **Group 3:**

# ***Individuals and Societies***

### **Pamoja online IBDP courses**

*"ITGS is my favorite subject. What makes it so good is that it is online. This means meeting and collaborating with people from around the world."*

*- Mohamed Atif*

Pamoja Education is an education provider that has developed online courses in close collaboration with the IB. Pamoja offers a number of courses that we do not provide at QAS and therefore they can open up additional course opportunities.

Students will need to make a convincing case for their place on such a course, and be able to demonstrate the necessary organizational and motivational skills needed to complete the course successfully. They will be monitored closely with regular contact between the school and the online course tutor at Pamoja. Students would have allocated class time on their schedule but will be expected to also work online at home.

Pamoja online courses are operated in a virtual classroom of students from around the globe, and an experienced Diploma teacher, using a variety of internet based learning tool. The course teacher sets, assesses and reports according to the normal IB standards.

Final assessments, including examinations, are administered in school, just like all the other IB Diploma classes.

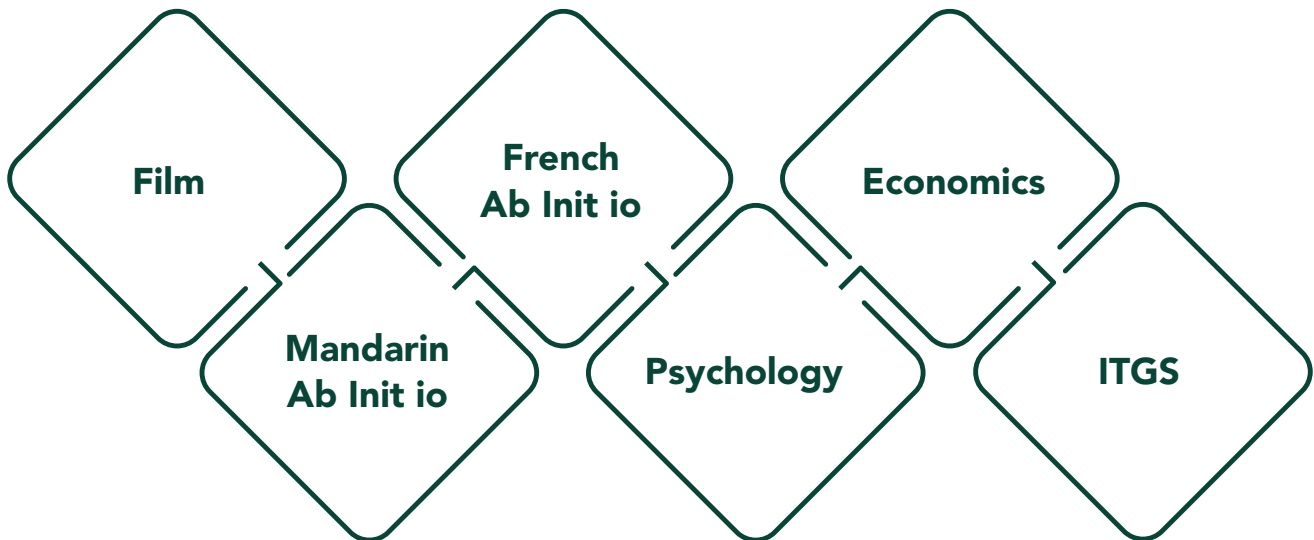


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## Potential Pamoja online courses include:



Pamoja online courses run to a slightly different school year and so students will be expected to study their Pamoja course during some of their QAS vacation time.

Some Pamoja course options require an additional school fee since they are options over and above the wide-ranging course options already provided by QAS.

More details are available at <https://pamojaeducation.com> and from the IB DP Coordinator.



## Group 3: *Individuals and Societies*

### Global Politics

*"Global Politics would be a very interesting course to take for anyone interested in real-world current affairs or international relations. If you have enjoyed taking part in MUN this would be a good subject for you." -Sundus*

Global Politics is an exciting new course offered for the first time in a QF school.

"The Global Politics course explores fundamental political concepts such as power, equality, sustainability and peace in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies." -IB DP Global Politics subject guide 2017

**The course consists of four compulsory units, common to both SL and HL:**

#### **Power, sovereignty and international relations**

This unit gives students an understanding of how power is distributed, recognized and contested at various levels; the nation state, international organizations, and non-state actors.

#### **Human rights**

This unit focuses on the nature and practice of human rights. This includes the development and evolution of human rights, and how human rights agreements are ratified, enforced and contested. It looks at how different groups and organizations pursue and advocate human rights controversies, and it analyses debates surrounding human rights.





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## Development

This unit looks at how economic forces, state policies, local concerns and practices, and international organizations affect development.

## Peace and conflict

This unit focuses on different types of conflict and violence within and between nation states; and at post-conflict transformation, reconciliation and reconstruction.

## Higher Level

*"SL and HL students study the four core units and undertake an engagement activity. Through a case studies approach HL students also examine and evaluate two global political challenges, which by their nature are complex, contestable and interlinked."* -IB DP Global Politics subject guide

Two global political challenges will be researched, discussed and presented as case studies. The two will come from these six options: environment, poverty, health, identity, borders or security.

## Examinations

Two exams totaling 3 hours (worth 75% at SL and 80% at HL). The HL extension also has an externally assessed 20-minute oral presentation of an analysis of two case studies from two different HL extension topics.

## Engagement activity

Students undertake an engagement activity (worth 25% at SL 20% at HL; 20 hours) designed to encourage them to actively engage with political issues and ideas, and then produce a report analyzing the political issue explored in that activity.

# Trans-disciplinary subject: *Groups 3 and/or 4*

## Environmental Systems and Societies - SL only

*"The prime intent of this course is to provide students with a coherent perspective of the interrelationships between environmental systems and societies; one that enables them to adopt an informed personal response to the wide range of pressing environmental issues that they will inevitably come to face."* - IB DP Environmental Systems and Societies subject guide

*"Practical work is an important aspect of the ESS course, whether in the laboratory, classroom, or out in the field."* - IB DP Environmental Systems and Societies subject guide.

Environmental Systems and Societies is a trans-disciplinary course that can be taken as either **a Group 3: Individuals and Societies option**, or as **a Group 4: Sciences option**. It is, however, only available as a Standard Level (SL) course. Students learn about eight topics, listed below with details of some of the content:

### **Foundations of environmental systems and societies**

Environmental value systems, Systems and models, Energy and equilibria, Sustainability, Humans and pollution.

### **Ecosystems and ecology**

Species and populations, Communities and ecosystems, Flows of energy and matter, Biomes, zonation and succession, Investigating ecosystems.

### **Water and aquatic food production systems and societies**

Access to fresh water, Aquatic food production systems, Water pollution.

### **Soil systems and terrestrial food production systems and societies**

Terrestrial food production systems and food choices, Soil degradation and conservation.



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**Biodiversity and conservation** Origins, Threats and Conservation of biodiversity.

### **Atmospheric systems and societies**

Stratospheric ozone, Photochemical smog, Acid deposition.

### **Climate change and energy production**

Energy choices and security, Climate change-causes and impacts, Climate change-mitigation and adaptation.

### **Human systems and resource use**

Human population dynamics, Resource use in society, Solid domestic waste, Human population carrying capacity.

### **Internal Assessment**

The purpose of the internal assessment investigation is to focus on a particular aspect of an ESS issue and to apply the results to a broader environmental and/or societal context. The investigation is recorded as a written report of around 2250-1500 words.

### **Examinations**

Two written examinations totaling three hours are worth %75 of the grade. The internal assessment investigation activities are worth %25.





# Group 4: Sciences

## Overview of all subjects

The three Group 4 Experimental Sciences share a common structure in terms of the kind of learning that takes place. Biology, Chemistry and Physics are each approximately 70% theory and 30% practical work. Part of the practical element is a ten-hour Group 4 Project. This is usually completed towards the end of Grade 11 and involves the collaboration of science students from across the three subjects.

“The Group 4 project is an interdisciplinary activity in which all Diploma Programme science students must participate. The intention is that students from the different group 4 subjects analyze a common topic or problem. The exercise should be a collaborative experience where the emphasis is on the processes involved in scientific investigation rather than the products of such investigation.” – IB DP subject guides for the experimental sciences

## Internal Assessment

The IA, worth 24% of the final assessment, consists of the interdisciplinary Group 4 Project, and a mixture of short-term and long-term investigations (such as practical and subject-specific projects). Student work is internally assessed by the teacher and externally moderated by the IB.

Group Practical work is assessed according to five criteria: design, data collection and processing, conclusion and evaluation, manipulative skills, personal skills.

## Examinations and Grades

Two written examinations and one multiple-choice exam, totaling three hours at SL and 4 hours 30 minutes at HL, are worth %76 of the grade. Internal assessment activities are worth %24.



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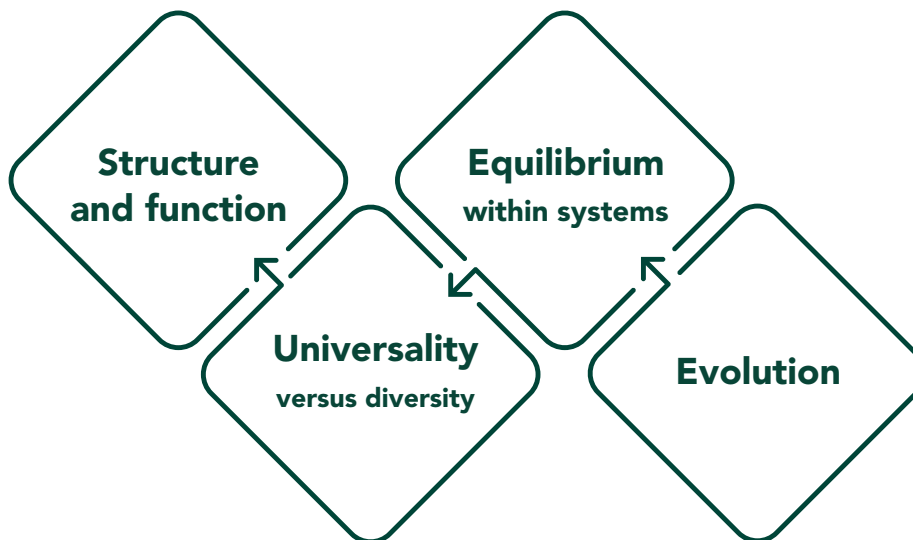
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## Biology

*"The Biology course has allowed me to gain exposure into various biological topics. It is a vast subject, but intriguing and informative." -Jade Dmello*

*"In the Diploma Programme Biology course, it is hoped that students will acquire a limited body of facts and, at the same time, develop a broad, general understanding of the principles of the subject." – IB DP subject guide for Biology*

**There are four basic biological concepts that run throughout the course.**



## Group 4: *Sciences*

The following topics describe the course content of IBDP Biology as taught at QAS. Students at SL study the first 6, and students at HL are required to study 5 additional topics. There is a further option for both SL and HL, studied in more depth at HL.

### **Topic 1: *Cell biology***

Introduction to cells, ultrastructure of cells, membrane structure, membrane transport, the origin of cells, and cell division.

### **Topic 2: *Molecular biology***

Molecules to metabolism, water, carbohydrates and lipids, proteins, enzymes, structure of DNA and RNA, DNA replication, transcription and translation, cell respiration and photosynthesis.

### **Topic 3: *Genetics***

Genes, chromosomes, meiosis, inheritance, genetic modification and biotechnology.

### **Topic 4: *Ecology***

Species, communities and ecosystems, energy flow, carbon cycling, climate change.

### **Topic 5: *Evolution and biodiversity***

Evidence for evolution, natural selection, classification of biodiversity, cladistics.

### **Topic 6: *Human physiology***

Digestion and absorption, the blood system, defense against infectious disease, gas exchange, neurons and synapses, hormones, homeostasis and reproduction.





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## HL topics

### Topic 7: **Nucleic acids**

In depth exploration of DNA structure and replication, transcription and gene expression, and translation.

### Topic 8: **Metabolism, cell respiration and photosynthesis**

Metabolism, in depth exploration of cell respiration and photosynthesis.

### Topic 9: **Plant biology**

Transport in the xylem of plants, transport in the phloem of plants, growth in plants, and reproduction in plants.

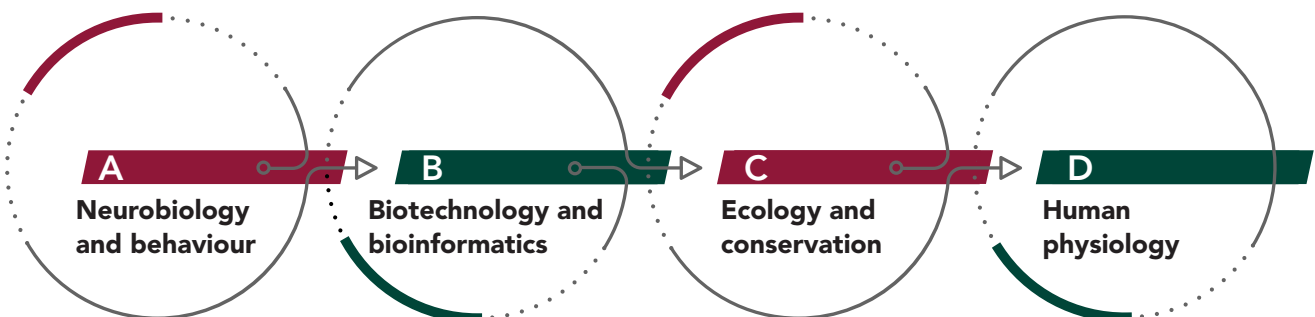
### Topic 10: **Genetics and evolution**

In depth exploration of meiosis and inheritance, gene pools and speciation.

### Topic 11: **Animal physiology**

Antibody production and vaccination, movement, the kidney and osmoregulation, and sexual reproduction.

**Students also study one further option from:**



## Group 4: Sciences

### Chemistry

*"Chemistry is a subject for students who are determined and risk-takers, who are ready for a challenge. It seems hard, but it is doable." – Braa Al Momani*

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

### Chemistry at QAS has a number of core, optional and HL topics:

#### **Stoichiometric relationship**

Introduction to the particulate nature of matter and chemical change, the mole concept and reacting masses and volumes.

#### **Atomic structure**

The nuclear atom and electron configuration.

#### **Periodicity**

The periodic table and periodic trends.

#### **Chemical bonding and structure**

Ionic bonding and structure, covalent bonding, covalent structure, intermolecular forces and metallic bonding.

#### **Energetics/ thermochemistry**

Measuring energy changes, Hess's law, and bond enthalpies.



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## Kinetics and Equilibrium

Collision theory and rates of reaction, and equilibrium.

## Acids and bases

Theories of acids and bases, properties of acids and bases, strong and weak acids and bases, acid deposition and the pH scale.

## Oxidation and reduction

Oxidation and reduction and electrochemical cells.

## Organic chemistry

Fundamentals of organic chemistry, functional group chemistry.

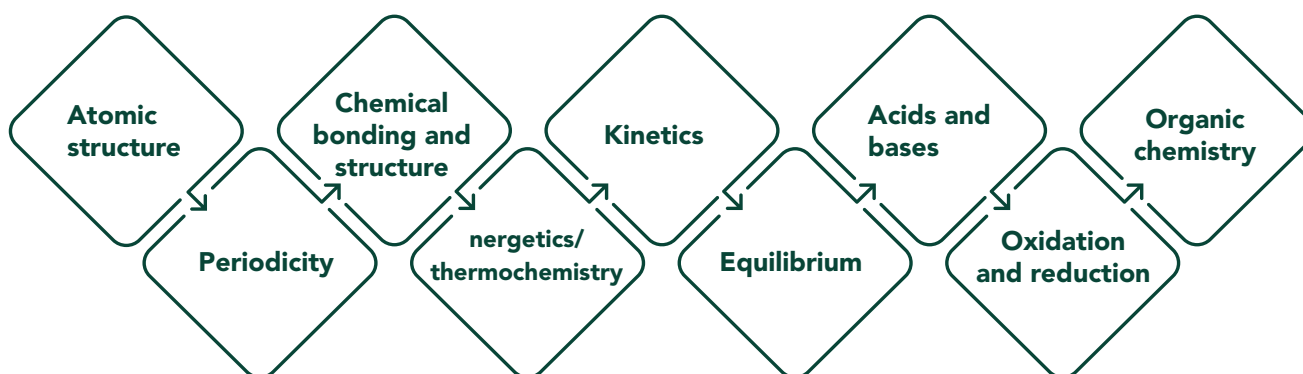
## Measurement and data processing

Uncertainty and error in measurement and in calculated results, graphical techniques and spectroscopic identification of organic compounds.

## Medicinal chemistry

Pharmaceutical products and drug action, penicillin and aspirin, opiates, pH regulation of the stomach, anti-viral medications, the environmental impact of some medications, nuclear medicine, Taxol- a chiral auxiliary case study and drug detection and analysis.

## Additional Higher Level topics:





## Group 4: Sciences

### Physics - SL only

*"Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself, from the very smallest particles—quarks, which may be truly fundamental—to the vast distances between galaxies." – IB DP subject guide for Physics*

IB Physics covers the great pillars of classical physics, like Newtonian mechanics, electromagnetism and thermodynamics. It also deals with 20th century ideas such as relativity, quantum and nuclear physics, and chaos theories. All have gone a long way in deepening our understanding of the universe. While Physics stems from precise observation, it also requires creativity and imagination to develop new theories.

A good grounding in mathematics is essential to success in Physics. You need to be sure of your own mathematical abilities before attempting Physics.

### DP Physics has a number of core and optional topics:

#### Core topics:

##### 1. Measurements and uncertainties

Measurements in physics, Uncertainties and errors and Vectors and scalars.

##### 2. Mechanics

Motion, Forces, Work, energy, and power and Momentum and impulse.

##### 3. Thermal physics

Thermal concept and Modeling a gas.



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## 4. Waves

Oscillations, Travelling waves, Wave characteristics, Wave behavior and Standing waves.

## 5. Electricity and magnetism

Electric fields, Heating effect of electric currents, Electric cells and Magnetic effects of electric currents.

## 6. Circular motion and gravitation

Circular motion and Newton's law of gravitation.

## 7. Atomic, nuclear and particle physics

Discrete energy and radioactivity, Nuclear reactions and the structure of matter.

## 8. Energy production

Energy sources and Thermal energy transfer.

## Options, to be determined by the teacher:

### A. Relativity

The beginnings of relativity, Lorentz transformations and Space-time diagrams.

### B. Engineering

Rigid bodies and rotational dynamics, Thermodynamics.

### C. Imaging

Introduction to imaging, Imaging instrumentation and Fibre optics.

### D. Astrophysics

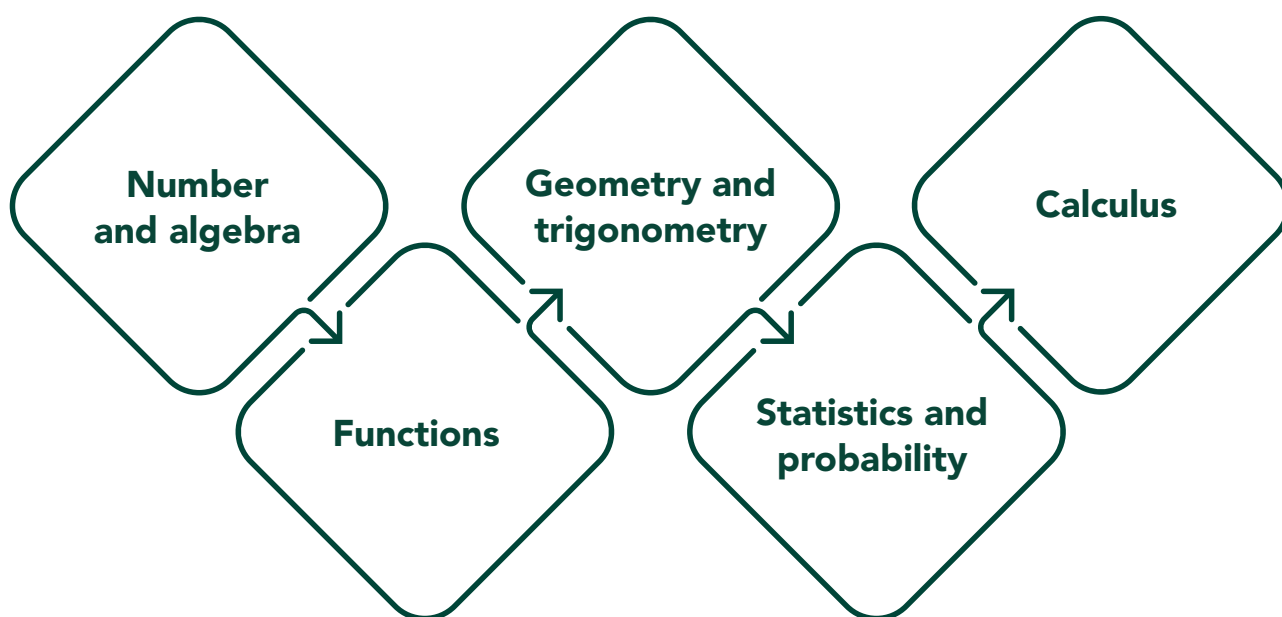
Stellar quantities, Stellar characteristics and stellar evolution and Cosmology.

## Group 5: *Mathematics*

Mathematics is a compulsory element of both the QAS and the IB diplomas. This year the IB launches two new Mathematics courses for first examinations in 2021.

- **Applications and interpretations**
- **Analysis and approaches**

Both courses are available at SL and HL and both contain around 60 hours of common shared content. Therefore, at QAS, this allows students to experience DP Mathematics for a full semester before deciding which of the two courses to pursue for the remaining 18 months. Both courses are structured into 5 topics, with different emphasis or content in each. The 5 topics are:



In addition, both classes have an internal assessment task: the toolkit for mathematical exploration.

Both SL courses are assessed by two 90 minutes examinations and the internal assessment task. HL courses have two -2hour exams and a -1hour exam plus the Internal Assessment task.





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*"The nature of mathematics can be summarized in a number of ways: for example, it can be seen as a well-defined body of knowledge, as an abstract system of ideas, or as a useful tool. ... Mathematics, for most of us, also extends into our chosen profession. Artists need to learn about perspective, musicians need to appreciate the mathematical relationships within and between different rhythms, economists need to recognize trends in financial dealings, and engineers need to take account of stress patterns in physical materials. Some people (simply) enjoy the challenges offered by the logical methods of mathematics and the adventure in reason that mathematical proof has to offer." IB DP subject guides for Mathematics*



# Group 6:

## The Arts

### Visual Arts

The visual arts core syllabus at SL and HL consists of three equal interrelated areas:

#### Visual arts in context:

##### *Theoretical Practice*

This part of the syllabus provides a lens through which students are encouraged to explore perspectives, theories and cultures that inform and influence visual arts practice. Students should be able to research, understand and appreciate a variety of contexts and traditions and be able to identify links between them.

#### Visual arts methods:

##### *Art-Making Practice*

This part of the syllabus addresses ways of making artwork through the exploration and acquisition of skills, techniques and processes, and through engagement with a variety of media and methods.

#### Communicating visual arts:

##### *Curatorial Practice*

Students investigate, understand and apply the processes involved in selecting work for exhibition and public display. Students make and justify decisions about the selection of their own work.

Throughout the course, students are required to maintain a visual arts journal. This is their own record of the two years of study and is used to document:

- Experiments with media
- Personal reflections and observations
- Creative ideas for exploration and development
- Evaluations of practices, experiences, and challenges in art-making
- Evaluations and critical analyses



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## Higher Level (HL) or Standard Level (SL)

The distinction between SL and HL is a matter of greater breadth and greater depth, in both practical and analytical aspects of the course. HL students are encouraged to produce a larger body of resolved works and to demonstrate a deeper consideration of how their resolved works communicate with a potential viewer.

## Assessment

There are no examinations in Visual Arts. Instead, students complete the following three components throughout the 2-year course and submit their work at the end:

### *Comparative study*

Students analyze and compare different artworks by different artists. This critical and independent investigation explores artworks from different cultural contexts.

### *Process portfolio*

Students submit work that is evidence of artistic experimentation, exploration, and refinement. They are required to show work from a variety of different art-making forms (Ex: painting, sculpture, photography). SL students will demonstrate at least two art-making forms, while HL students will demonstrate three.

### *Exhibition*

Students submit for assessment a selection of resolved artworks from their exhibition. The selected pieces should show evidence of their technical accomplishment during the visual arts course and an understanding of the use of materials, ideas and practices appropriate to visual communication.



## **Group 6:** *The Arts*





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## Film - SL and online only

This course develops students' skills so that they become adept in interpreting and making film texts. Through the analysis of film texts and exercises in filmmaking, the course explores film history and theory. It also develops students' critical abilities, enabling them to appreciate the variety of cultural and historical perspectives in film.

### Topics covered through the course can be split into three categories:

#### Textual analysis

Topics include the language of film, mise-en-scene, costumes, music, cinematography, lighting and camera movement. These are studies in the context of the prescribed film for the Film SL course. These films include Psycho, Breathless, The 400 Blows, Ikiru, The Good, the Bad and the Ugly, Blade Runner, Pan's Labyrinth, Children of Men and Metropolis.

#### Film history and theory

Topics include early cinema, German expressionism, musicals of the 30s and 40s, Italian neo-realism, film noir, French new wave, Japanese cinema, Mexican cinema, gender theory, auteur theory, Marxist cinema, and psychoanalytical film theory.

#### Film production

There are several practical production projects. These short films (2-1 minutes) usually focus on a particular area of the creative process, such as lighting, editing, how to film a dinner table conversation, diegetic and Foley sound, and the visual interpretation of a poem.

## **Group 6:** *The Arts*

In order to succeed, we recommend students set aside five to six hours a week, some of which will be scheduled in school. Students will need a video camera or DSLR that has manual focus, a sturdy tripod and editing software such as iMovie, Final Cut or Premiere, as basic requirements. A lighting kit and recording device (handheld or microphone) would be excellent additions.

### **Activities and assessment**

Every activity has its own assessment rubric. Students may create a one-minute video without dialogue that includes at least two characters and a dinner table; create a Twilight Zone film where a character transitions between different places and time periods that are unconnected in reality; recreate a scene from a favorite film; film the same location twice (the second time light and design the location to recreate a place typical of a chosen genre of film); record an analysis of how film language creates meaning in a five-minute extract from a film; create a storyboard; or create a map showing camera placement, lighting, and actor movement in a scene.

### **Taking Film SL online with Pamoja will enable students to:**

- Enhance their passion for the subject
- Deepen their understanding of the how and why of filmmaking
- Develop intercultural understanding which is sought by the world's top universities
- Develop 21st century skills like time management, communication and digital literacy which are much in demand by employers





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# Academic Integrity

## *What is Academic integrity?*

Academic integrity or honesty is an integral part of the IBDP and of learning at QAS. All students need to learn what this is and to study within its ethical structure. Failure to do so could have serious long-term consequences for a student's academic achievement.

The QF Schools' policy on Academic Integrity states, "All students and stakeholders will strive to be principled in all aspects of their school life." This is defined by the IB Learner Profile as acting, "with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, group and communities... [As] taking responsibility for their own actions and the consequences that accompany them," and this applies equally to all Pre-University Education (PUE) institutions. PUE defines academic integrity in the following ways:

- Academic integrity covers a broad range of skills and values that require students to be ethical, honest and principled in their learning. It requires students to take responsibility for their own studies, school-work and completion of assessment tasks.
- Academic dishonesty or lack of integrity is often a product of many factors; including a student's abilities and comprehension of a given subject or task, peer and social pressure, cultural and parental expectations, role modeling, taught skills, workload stress, and competition for reward, award or a place in a further education institution.
- QF recognizes the importance of intellectual property and the importance of giving explicit credit to the original author or creator. Teachers and students alike are required to work, study and learn with honesty



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**In essence:** DP students are encouraged to research and use the work and ideas of other scholars and academic and other sources. However, they must cite those sources with honesty and integrity, and not attempt to present other people's work as their own.

## What is Academic Dishonesty?

Academic dishonesty can take many forms, each of which needs to be understood by teachers and students:

### 1. Intentional

when a student plans to be dishonest, is aware of the nature of their actions.

### 2. Unintentional

when a student is dishonest without realizing what is expected and required.

### 3. Copying

reproducing someone else's words, ideas or work in one's own assignment.

### 4. Duplication

use of one's own assignments for more than one task.

### 5. Plagiarism

taking the words, ideas or work of another individual and presenting it as one's own.

### 6. Fabrication

the creation of false, fake or invented data, research, images, or other source material.

# Academic Integrity

## *What is Academic integrity?*

### **7. Collusion**

when two or more students work together, thus making attribution of ideas or words that are difficult to determine.

### **8. Copyright infringement**

use of works protected by copyright law without permission.

### **9. 'Tutorization'**

when a student gains too much guidance or support from a home tutor.

### **10. Exam malpractice**

a deliberate act of wrongdoing, contrary to the rules of the examination.

### **11. 'Contract cheating'**

a student pays for someone else to produce an assignment on their behalf, whether a friend, a classmate or an online service provider.

### **12. Unauthorized or malicious interference**

with another student's work, or with a teacher or school records.

## **What are the consequences of dishonesty?**

There are escalating consequences depending on the nature, severity and frequency of a student failing to apply academic integrity to their work. These range from interventions, warnings and repetition of assignments to:

- Parental involvement.
- Impact on grades and reports.
- Probation, detention, suspension.
- Disqualification or withdrawal from examination candidacy or course credit.



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- Failing the IB Diploma or a DP course by getting an N (no grade awarded) in their certificate of results.
- Communicating the incident to a student's intended colleges or universities. their certificate of results.
- Communicating the incident to a student's intended colleges or universities.

*For further details, see the PUE Academic Integrity Policy and Procedures Manual.*





# Creativity, Activity, Service (CAS)

“Creativity, activity, service (CAS) is at the heart of the Diploma Programme. It is one of the three essential elements in every student’s Diploma Programme experience; CAS enables students to enhance their personal and interpersonal development through experiential learning.” – IB CAS guide

In keeping with its goal of educating the whole person and its mission “to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world,” the International Baccalaureate Organization has made CAS a fundamental part of its curriculum.

CAS is a requirement for both IB and QAS Diplomas. The IB and QAS require that students in Grades 11 and 12 complete an -18month program in CAS, carrying out activities and experiences relating to Creativity, Activity and Service. This important requirement fosters experiential learning beyond the confines of the classroom and encourages students to become involved in creative pursuits, physical activities, as well as with local, national, and international service projects.

## The three components of CAS is defined as:

### **Creativity**

Exploring and extending ideas leading to an original or interpretive product and performance

### **Activity**

Physical exertion contributing to a healthy lifestyle.

### **Service**

Collaborative and reciprocal engagement with the community in response to an authentic need.



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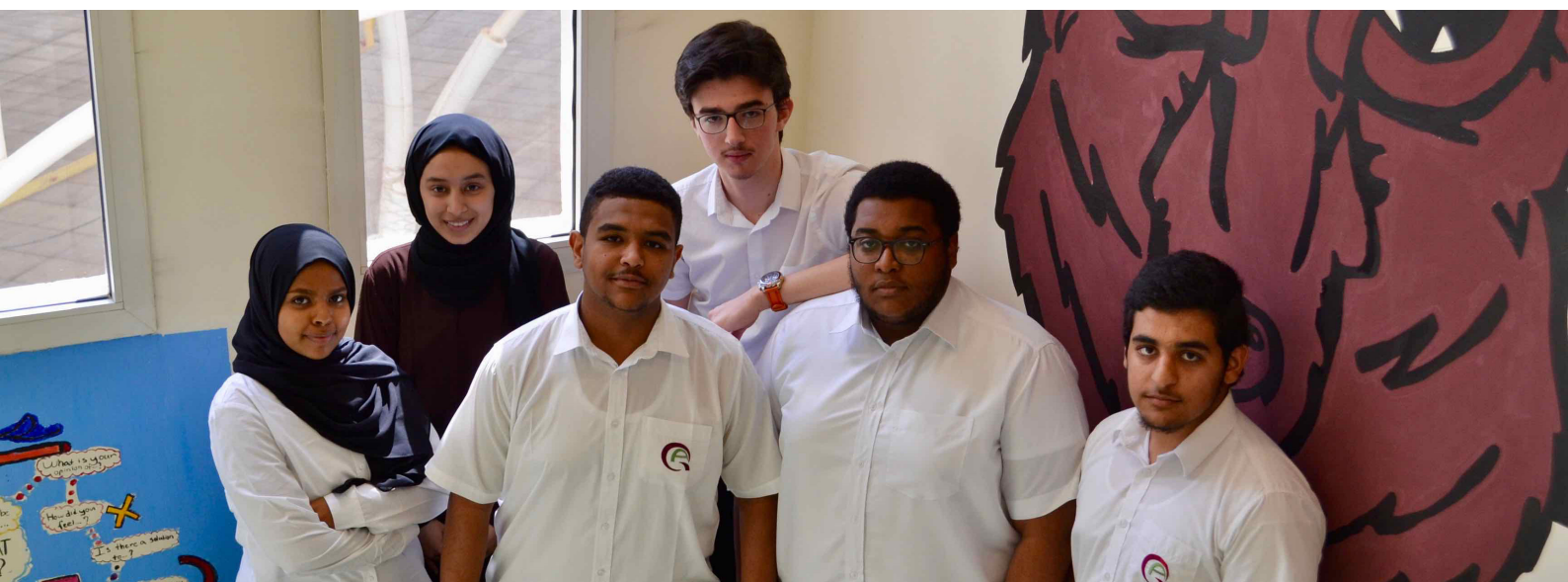
CAS experiences can be a single event or a series of events, and must include at least one project of no less than a month's duration in which the student works collaboratively with other students. Students use the CAS stages as the framework for their experiences. These are investigation, preparation, action, reflection and demonstration.

Students should find and develop their own CAS experiences, collaboratively or alone, within school or outside.

### **All proposed CAS experiences must meet four criteria:**

1. Real, purposeful activities with significant outcomes.
2. Be a personal challenge.
3. Involve planning, reviewing and reporting.
4. Have in depth reflections on outcomes and student learning.

CAS encourages students to discover and develop new skills and interests, take risks and develop a sense of responsibility and personal commitment to doing what they can to improve the world around them. It prepares students to participate in, and contribute to, the international community by fostering the development of shared values and attitudes that transcend issues of politics, religion, class, race and gender. In short, CAS is designed to encourage students to be more active and committed citizens, giving of themselves and to foster a sense of balance in their own lives.



# Theory of Knowledge (ToK)

*“What makes ToK unique, and distinctively different from standard academic disciplines, is its process. At the center of the course is the student as knower. Students entering the Diploma Programme typically have 16 years of life experience and more than 10 years of formal education behind them. They have accumulated a vast amount of knowledge, beliefs and opinions from academic disciplines and their lives outside the classroom. In ToK they have the opportunity to step back from this relentless acquisition of new knowledge, in order to consider knowledge issue.” – IB DP subject guide for ToK*

Theory of Knowledge is a compulsory course and a core element in the IB Diploma Programme. QAS Diploma students have it as an option, for which they will receive credit. It encourages critical thinking about knowledge itself with questions like; How do we know what we know? What counts as knowledge? How do we acquire knowledge? How does it grow? What are its limits? What is the value of knowledge?

Such questions may initially seem abstract or theoretical, but ToK classes bring them into closer focus by taking into account students’ interests, subjects, circumstances and outlooks. Students are encouraged to make connections between ToK and their other subjects, and to compare their personal knowledge with shared community knowledge.

The course requirement is for 100 hours of study. At QAS the teaching is spread out over two years, broken into unit topics, with study time and Extended Essay sessions being scheduled in between.

The Theory of Knowledge syllabus is divided into Ways of Knowing and Areas of Knowledge; with individual units from each, slotting together to encourage students to make connections between their school subject areas and the ways in which knowledge is acquired. Other linking concepts, such as truth, belief, evidence, explanation and interpretation, contribute to a student’s progression of thinking skills.



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## Grade 11

An introduction to the knower and knowing

Areas: Science and the arts

Ways: Sense perception, reason and emotion

Areas: Ethical and religious knowledge

## Grade 12

Ways: Language, memory

Areas: History, the human sciences and Mathematics

## Assessment

The course is assessed by a 10-minute oral presentation, internally graded by the teacher, and 1200-1600 word written essay from a choice of six titles given and assessed by external examiners. The combination marks are converted into a grade A - E and combine on a grid with the Extended Essay for up to three core points towards the IB Diploma. There is no examination and the course is completed in March.

It is an option for QAS Diploma students to take the ToK course, complete the assessments and receive credit for it on their IB Courses certificate and their QAS Diploma transcript.

*"The course encourages students to share ideas with others and to listen to and learn from what others think. In this process students' thinking and their understanding of knowledge as a human construction are shaped, enriched and deepened." – IB DP subject guide for ToK*



# Extended Essay (EE)

*"The extended essay is an in-depth study of a focused topic chosen from the list of approved Diploma Programme subjects and one of the student's six chosen subjects for the IB Diploma. It is intended to promote high-level research and writing skills, intellectual discovery and creativity. It provides students with an opportunity to engage in personal research in a topic of their own choice, under the guidance of a supervisor." - IB DP subject guide for the Extended Essay*

The Extended Essay (EE) builds on skills developed within the MYP Personal Project but is a much more formal and academic piece of research and writing.

The Extended Essay is a compulsory core component of the IB Diploma that should take around 40 hours of personal research and writing, and must be under 4000 words in length.

The Extended Essay is one of the elements of the IB Diploma that makes it so highly regarded by colleges and universities. The EE prepares students for the kind of independent research, thinking, writing and presentation skills that are expected at higher education institutions.

There is the option for QAS Diploma and DP Courses students to take the Extended Essay course, complete the essay, and receive credit for it on their IB Diploma Courses certificate.

At QAS the essay writing process begins in January of Grade 11 with research ideas and proposals honed into specific and answerable questions, developed by the student with guidance from a supervisor. Classes are given in research methods and resources, and in academic writing. A draft is written over the summer vacation and the final essay submitted for external assessment in December of Grade 12. The essay is awarded a grade from A - E and is combined on a grid with the Theory of Knowledge for up to three core points towards the IB Diploma.



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# The IB Learner Profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, and help to create a better and more peaceful world.

## IB learners and QAS students strive to be:

### Inquirers

They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.

### Knowledgeable

They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.

### Thinkers

They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.

### Communicators

They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.

### Principled

They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.





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## Open-minded

They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.

## Caring

They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.

## Risk-takers

They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.

## Balanced

They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.

## Reflective

They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations.







# QAS Diploma & IB Diploma