

OMAHA



CENTRAL

**INTERNATIONAL BACCALAUREATE
WORLD SCHOOL**

IB DIPLOMA PROGRAMME

INFORMATION BOOKLET

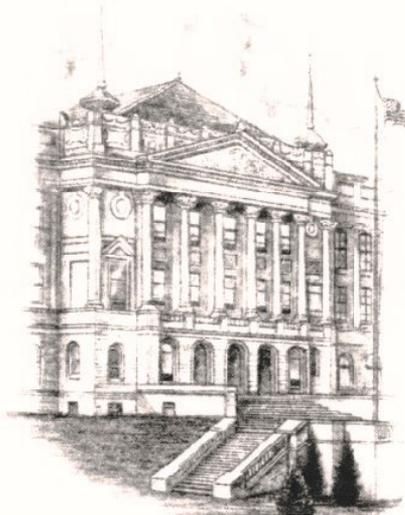


International Baccalaureate Mission Statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.



Omaha Central High School Mission Statement

The mission of Central High School is to continue a tradition of excellence emphasizing academic achievement, responsible global citizenship, pride in diversity and enduring scholarship.

Information in this booklet is garnered from various IB publications including but not limited to the course guides, subject briefs, IB resources, the IBO website and direct quotes. Because IB is an international program, European spelling is often used.

Omaha Central High School IB Information Booklet

A Message from the International Baccalaureate Organization (IBO)

The IB Diploma Program is a comprehensive and challenging pre-university course that demands the best from both motivated students and teachers. This sophisticated curriculum covers a wide range of academic subjects and has stood the test of time for over half a million participants.

Universities recognize the outstanding qualities of IB Diploma Program students. Typically, diploma holders are ready to debate real-world issues from an international perspective and to provide leadership and support in the local and global community. They demonstrate a capacity for in-depth study while maintaining a broad perspective of the different subject areas. They are able to ask challenging questions but also know how to research a topic and express their opinion. They have a strong sense of their own culture and identity, as well as the ability to communicate in two or more languages with people who have a different viewpoint of the world.

We are proud of our reputation for **high-quality education** sustained for over 50 years. Our curriculum represents the best from many different countries rather than the exported national system of any one. Our challenging Diploma Program assessment is recognized by the world's leading universities. We maintain our high standards by actively training and supporting teachers, and by authorizing and evaluating IB World Schools.

We encourage **international-mindedness** in IB students. To do this, we believe that students must first develop an understanding of their own cultural and national identity. All IB students learn a second language and the skills to live and work with others internationally—essential for life in the 21st century.

We encourage a **positive attitude to learning** by encouraging students to ask challenging questions, to critically reflect, to develop research skills, and to learn how to learn. We encourage community service because we believe that there is more to learning than academic studies alone.

We ensure that our programs are **accessible** to students in a wide variety of schools—national, international, public and private—in 157 countries. These IB World Schools form a worldwide community in which there is no such thing as a “typical” school (more than 50% of IB students are in state-funded schools). IB World Schools cooperate in curriculum development, student assessment and the governance of the IBO, making this a unique international collaboration.

At Omaha Central High School students sit for the complete IB Diploma (take 6 tests, 3 SL and 3 HL, complete Creativity, Activity, Service requirements, write an Extended Essay and complete the course Theory of Knowledge. All external assessment testing is in May. The IBO sets the dates for each test. Subjects are scored on a 1-7 scale with a further three points available for Theory of Knowledge and the Extended Essay. Students who display good levels of performance across all six subjects and achieve a minimum of 24 points (out of 45) are awarded the diploma. All others receive a certificate for each subject completed. Other projects will be due at various times throughout the year according to each teacher.

International Baccalaureate Diploma Programme Model



The Learner Profile:

The attributes and descriptors of the learner profile define the type of learner the IBO hopes to develop through its programs. It originated in the IB Primary Year Program (PYP) where it was called the “PYP student profile”, but practitioners from all three programs identified it as a set of qualities that could also enhance learning in the MYP and the Diploma Program—learning that should not come to a stop at the age of 11, but should carry through to the completion of the Diploma Program. It is now called the “IB learner profile” to make it applicable to all students and adults involved in the implementation of IB programs, that is, to the IBO community of learners.



IB learners strive to be:

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

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

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

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

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

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

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

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

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

Reflective They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Approaches to Teaching and Learning

Approaches to Learning (ATL)

Developing students' ATL skills is about more than simply developing their cognitive skills. It is also about developing affective and metacognitive skills, and about encouraging students to view learning as something that they “do for themselves in a proactive way, rather than as a covert event that happens to them in reaction to teaching” (Zimmerman 2000: 65). By developing ATL skills and the attributes of the learner profile, DP students can become “self-regulated learners” (Kaplan 1998). Self-regulated learners have learned how to set learning goals, ask good questions, self-interrogate as they learn, generate motivation and perseverance, try out different learning processes, self-monitor the effectiveness of their learning, reflect on achievement, and make changes to their learning processes where necessary (Zimmerman and Schunk 1989, de Bruin et al. 2011, Wolters 2011).

The term “skill” is therefore used in a broad sense in the DP to encompass cognitive, metacognitive and affective skills. Cognitive skills include all the information-processing and thinking skills, often called “study skills” in a school environment. Affective skills are the skills of behaviour and emotional management underpinning attitudinal factors such as resilience, perseverance and self-motivation, which often have a large role to play in educational achievement. Metacognitive skills are the skills that students can use to monitor the effectiveness of their learning skills and processes, to better understand and evaluate their learning. Although these skills may be in use when manifesting a certain natural ability or talent, they are different to both of these because proficiency in any skill can be increased through the deliberate use of techniques and strategies, feedback and challenge. Skills are therefore highly teachable.

In the DP, as well as in the Primary Years Programme (PYP) and Middle Years Programme (MYP), these cognitive, metacognitive and affective skills are grouped into the same five ATL categories.



Although these skills areas are presented as distinct categories, there are obviously close links and areas of overlap between them, and it is intended that these categories should be seen as interrelated. It is also the intention that these ATL skills should be seen as linking closely with the attitudes and dispositions identified in the IB learner profile.

Approaches to Teaching (ATT)

Pedagogical principles underpinning the IB Diploma Programme

What is of paramount importance in the pre-university stage is not what is learned but learning how to learn ... What matters is not the absorption and regurgitation either of fact or pre-digested interpretations of facts, but the development of powers of the mind or ways of thinking which can be applied to new situations and new presentations of facts as they arise. (Peterson 1972)

From its beginnings, the DP has adopted a broadly constructivist and student-centred approach, and has emphasized the importance of connectedness and concurrency of learning. There are six key pedagogical principles that underpin all IB programmes. Teaching in IB programmes is:

1. based on **inquiry**
2. focused on **conceptual understanding**
3. developed in local and global **contexts**
4. focused on effective teamwork and **collaboration**
5. **differentiated** to meet the needs of all learners informed by **assessment** (formative and summative).

Every DP teacher is a language teacher. Language wraps itself around, in, through and between everything that we teachers and learners do in the classroom.

(Ron Ritchart 2002)

The development of international-mindedness is central to an IB education, and this term explicitly encompasses the three aspects of multilingualism, intercultural understanding and global engagement. Language is, therefore, highly valued by the IB, not least for the crucial role it plays in the cultivation of intercultural understanding. Every DP teacher plays an important role, and has an important responsibility, in supporting and reinforcing students' language development.

B Diploma Requirements along with the 6 exams:

Creativity, Activity, Service (CAS)

CAS is at the heart of the IB Diploma Candidate curriculum. It is a framework for experiential learning which emphasizes learning by participation and reflecting upon real events that have a significant impact on one's own life and the lives of others.

Studied throughout the Diploma Programme (18 months), CAS involves students in a range of activities alongside their academic studies. It is not formally assessed, however, students reflect on their CAS experiences as part of the DP, and provide evidence of achieving the seven learning outcomes for CAS. These outcomes include: undertaking new challenges, planning and initiating activities, working collaboratively with others, showing perseverance and commitment, engaging with issues of global importance, considering ethical implications, and developing new skills. CAS experiences might include being involved with music, dance, theatre, creative writing, managing a team, initiating a fund raiser, organizing a youth sports activity, or helping with any number of community volunteer projects. Documentation of CAS experiences and reflections is maintained in ManageBac, the IB Information System used at Omaha Central High School. All students are expected to abide by the IBO and Omaha Central High School deadlines for submission of experiences, forms and other components prescribed by the CAS Coordinator.

Theory of Knowledge (TOK)

As part of the IB Diploma Program core, Theory of Knowledge aims to develop a fascination with the richness of knowledge as a human endeavor. Course work is designed to increase students' awareness of how knowledge is constructed, critically examined, evaluated and renewed by communities and individuals. It encourages students to reflect on their experiences as learners and to make connections between academic disciplines while learning to recognize the diversity of ways of thinking both individually and among and across communities, areas of knowledge and ways of knowing. Emphasis is placed on consideration of the personal responsibilities as a global citizen that originates from this experience.

Students actively engage in group discussions designed to improve oral communication skills that reflect their understanding of their readings and viewings of world class philosophers from across the disciplines. Critical writing skills that reflect historical perspective, modern thought and future trends are developed through in-class writing assignments and constructing longer essays in response to specific prompts. Self-assessment tools are made available that allow these writers to improve their clarity, logic and quality of analysis while examining knowledge issues. Additionally, students design and create presentations and performances that allow venues for creative expression.

Due to its interdisciplinary nature, TOK is often considered to be one of the most engaging classes students encounter. The TOK classroom is rich in technology, curriculum resources and bright, creative minds.

Extended Essay (EE)

A diploma candidate must complete and submit an extended essay. The EE is defined as an in-depth study of a limited topic within a subject that results in a 3,500 to 4,000-word inquiry paper. Its purpose is to provide candidates with an opportunity to engage in independent research. Emphasis is placed on the process or engaging in personal research, on the communication of ideas and information in a logical and coherent manner, and on the overall presentation of the EE in compliance with these guidelines. Many of these general issues, such as the way in which information is handled, the level of analysis and the quality of argument, are assessed through the general assessment criteria. Once an appropriate topic has been chosen, candidates will narrow the focus of the investigation and formulate a specific research question. Work on the EE is expected to occupy approximately 40 hours and will be guided by a supervising teacher within the building. Each student is responsible for initiating an agreement with the supervisor and for initiating all meetings during the year-long process. The EE must be submitted in one of the IB subject areas offered at Central and must meet general and subject-specific criteria. Students must have topics approved by the Extended Essay or IB DP Coordinator. The EE Coordinator will give the supervisor information on the EE and just what is expected.

The EE contributes to the overall diploma score through the awarding of points in conjunction with TOK. A maximum of three points can be awarded according to a candidate's combined performance in both the EE and TOK. Points awarded are determined by the combination of the performance levels according to a matrix.

Group 1: Studies in language and literature

Language A: literature aims at exploring the various manifestations of literature as a particularly powerful mode of writing across cultures and throughout history. The course aims at developing an understanding of factors that contribute to the production and reception of literature—the creativity of writers and readers, the nature of their interaction with their respective contexts and with literary tradition, the ways in which language can give rise to meaning and/or effect, and the performative and transformative potential of literary creation and response. Through close analysis of a range of literary texts in a number of literary forms and from different times and places, students will consider their own interpretations as well as the critical perspectives of others, to explore how such positions are shaped by cultural belief systems and to negotiate meanings for texts.

Group 2: Language Acquisition

Language acquisition (French, German or Spanish) is an additional language-learning course designed for students with some previous learning of that language. The main focus

of the course is on language acquisition and development of language skills. These language skills should be developed through the study and use of a range of written and spoken material. Such material will extend from everyday oral exchanges to literary texts, and should be related to the culture(s) concerned. The material should be chosen to enable students to develop mastery of language skills and intercultural understanding. It should not be intended solely for the study of specific subject matter or content.

Language ab initio is designed for students with little or no prior experience of the language they wish to study. The aims of the ab initio course reflect those of group 2 but are defined within the parameters of the language ab initio syllabus. The course is organized into three themes: individual and society, leisure and work, and urban and rural environment. Each theme provides the students with opportunities to practice and explore the language as well as to develop intercultural understanding.

Group 3: Individuals and Societies

More commonly, these subjects are collectively known as the human sciences or social sciences. In essence, group 3 subjects explore the interactions between humans and their environment in time, space and place.

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. It is a discipline that gives people an understanding of themselves and others in relation to the world, both past and present. Students of history should learn how the discipline works. It is an exploratory subject that poses questions without providing definitive answers. In order to understand the past, students must engage with it both through exposure to primary historical sources and through the work of historians. Historical study involves both selection and interpretation of data and critical evaluation of it. Students of history should appreciate the relative nature of historical knowledge and understanding, as each generation reflects its own world and preoccupations and as more evidence emerges. A study of history both requires and develops an individual's understanding of, and empathy for, people living in other periods and contexts.

Diploma Programme history consists of a standard level (SL) and higher level (HL) core syllabus comprising an in-depth study of an individual prescribed subject and the selection of two topics. Students pursue route 2 which encompasses the main developments in 20th century world history. At HL students select from a range of optional syllabuses that cover a wider time span encouraging in-depth study. At Omaha Central High School students study 20th Century World History and History of the Americas.

Thus Diploma Programme history provides both structure and flexibility, fostering an understanding of major historical events in a global context. It requires students to make comparisons between similar and dissimilar solutions to common human situations, whether they be political, economic or social. It invites comparisons between, but not judgments of, different cultures, political systems and national traditions.

The content of the history course is intrinsically interesting and it is hoped that many students who follow it will become fascinated with the discipline, developing a lasting interest in it, whether or not they continue to study it formally.

The international perspective in Diploma Programme history provides a sound platform for the promotion of international understanding and, inherently, the intercultural awareness necessary to prepare students for global citizenship. Above all, it helps to foster respect and understanding of people and events in a variety of cultures throughout the world.

Social and Cultural Anthropology is the comparative study of culture and human societies and the exploration of the general principles of social and cultural life. The course places emphasis on comparative perspectives that make cultural assumptions explicit, and contributes to an understanding of contemporary real-world issues such as war and conflict, the environment, poverty, injustice, and human rights.

Social and cultural anthropology is distinct from other social sciences in its research tradition of participant observation and in-depth, empirical study of social groups. Areas of anthropological inquiry in this course are: belonging; classifying the world; communication, expression and technology; conflict; development; health, illness and healing; movement, time and space; production, exchange and consumption; and the body. These areas are explored through the key anthropological concepts of belief and knowledge, change, culture, identity, materiality, power, social relations, society, and symbolism.

The course engages students with the concepts, methods, language and theories of the discipline. At the heart is the practice of anthropologists, and the insights they produce in the form of ethnographic material. Through authentic anthropological practice, students engage with anthropological approaches and develop critical, reflexive knowledge. It contributes a distinctive approach to intercultural awareness and understanding, which embodies the essence of an IB education, and fosters the development of globally aware, internationally minded, and ethically sensitive citizens.

Group 4: Experimental Sciences

Students at standard level (SL) and higher level (HL) undertake a common core syllabus, a common internal assessment (IA) scheme and have some overlapping elements in the options studied. They are presented with a syllabus that encourages the development of certain skills, attributes and attitudes.

While the skills and activities of group 4 science subjects are common to students at both SL and HL, students at HL are required to study some topics in greater depth, to study additional topics and to study extension material of a more demanding nature in the common options. The distinction between SL and HL is one of breadth and depth.

Biology Biologists have accumulated huge amounts of information about living organisms, and it would be easy to confuse students by teaching large numbers of seemingly unrelated facts. 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. Although the Diploma Programme biology course at standard level (SL) and higher level (HL) has been written as a series of discrete statements (for assessment purposes), there are four basic biological concepts that run throughout.

Structure and function:

This relationship is probably one of the most important in a study of biology and operates at all levels of complexity. Students should appreciate that structures permit some functions while, at the same time, limiting others.

Universality *versus* diversity:

At the factual level, it soon becomes obvious to students that some molecules (for example, enzymes, amino acids, nucleic acids and ATP) are ubiquitous, and so are processes and structures. However, these universal features exist in a biological world of enormous diversity. Species exist in a range of habitats and show adaptations that relate structure to function. At another level, students can grasp the idea of a living world in which universality means that a diverse range of organisms (including ourselves) are connected and interdependent.

Equilibrium within systems:

Checks and balances exist both within living organisms and within ecosystems. The state of dynamic equilibrium is essential for the continuity of life.

Evolution:

The concept of evolution draws together the other themes. It can be regarded as change leading to diversity within constraints, and this leads to adaptations of structure and function.

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.

The Diploma Programme chemistry course includes the essential principles of the subject but also, through selection of options, allows teachers some flexibility to tailor the course to meet the needs of their students.

The course is available at both standard level (SL) and higher level (HL), and therefore accommodates students who wish to study science in higher education and those who do not.

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

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

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

Computational thinking involves the ability to:

- think procedurally, logically, concurrently, abstractly, recursively and think ahead
- utilize
- an experimental and inquiry-based approach to problem-solving develop algorithms and express them clearly
- appreciate how theoretical and practical limitations affect the extent to which problems can be solved computationally.

During the course the student will develop computational solutions. This will involve the ability to:

- identify a problem or unanswered question
- design, prototype and test a proposed solution
- liaise with clients to evaluate the success of the proposed solution and make recommendations.

While the skills and activities of computer science are common to students at both SL and

HL, students at HL are required to study additional topics in the core, a case study and also extension material of a more demanding nature in the option chosen. The distinction between SL and HL is therefore one of both breadth and depth. Additionally, the HL course has 240 hours devoted to teaching, compared with 150 hours for the SL course.

Students at SL and HL in computer science study a common core consisting of: four topics (system fundamentals; computer organization; networks; and computational thinking, problem-solving and programming); one option (chosen from databases; modelling and simulation; web science; or object-oriented programming) and one piece of internally assessed work, which includes a computational solution.

The HL course has three additional elements:

- three further topics (abstract data structures; resource management; control) additional and more demanding content for the option selected

- an additional externally assessed component based on a pre-seen case study of an organization or scenario; this requires students to research various aspects of the subject which may include new technical concepts and additional subject content—in greater depth.

Environmental Systems and Societies (ESS) is an interdisciplinary group 3 and 4 course. The central concepts of the ESS course include sustainability, equilibrium, strategy, biodiversity and environmental value systems (EVs). Many of the issues encountered in the course and beyond, such as resource management, pollution, globalization and energy security, are linked to these concepts.

It is important that students develop a holistic appreciation of the complexities of environmental issues, in which the interaction between environmental systems and societies is central. The ESS course requires that students consider the costs and the benefits of human activities, both to the environment and to societies, on a local and global scale and over the short and long terms. In doing so, students will arrive at informed but personal viewpoints. They should be aware of, and be able to justify, their own position and to appreciate the views of others along the continuum of environmental philosophies. Their viewpoints may vary according to the issues being considered.

A genuine appreciation of the overarching concepts and principles of environmental systems is only achievable when the big ideas are set in context. This course therefore requires that students explore the application of these concepts and principles in a wide range of situations. Contexts, founded in atmospheric, terrestrial and aquatic systems, along with the issues of energy and population, have been selected to offer a broad range that may be approached from local to global perspectives.

Environmental Systems and Societies is offered at the standard level only.

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself—from the very smallest particles to the vast distances between galaxies.

Despite the exciting and extraordinary development of ideas throughout the history of physics, certain things have remained unchanged. Observations remain essential at the very core of physics, and this sometimes requires a leap of imagination to decide what to look for. Models are developed to try to understand the observations, and these themselves can become theories that attempt to explain the observations. Theories are not directly derived from the observations but need to be created. These acts of creation can sometimes compare to those in great art, literature and music, but differ in one aspect that is unique to science: the predictions of these theories or ideas must be tested by careful experimentation. Without these tests, a theory is useless. A general or concise statement about how nature behaves, if

found to be experimentally valid over a wide range of observed phenomena, is called a law or a principle.

The scientific processes carried out by the most eminent scientists in the past are the same ones followed by working physicists today and, crucially, are also accessible to students in schools. Early in the development of science, physicists were both theoreticians and experimenters (natural philosophers). The body of scientific knowledge has grown in size and complexity, and the tools and skills of theoretical and experimental physicists have become so specialized, that it is difficult (if not impossible) to be highly proficient in both areas. While students should be aware of this, they should also know that the free and rapid interplay of theoretical ideas and experimental results in the public scientific literature maintains the crucial links between these fields.

At the school level both theory and experiments should be undertaken by all students. They should complement one another naturally, as they do in the wider scientific community. The physics course allows students to develop traditional practical skills and techniques and to increase facility in the use of mathematics, which is the language of physics. It also allows students to develop interpersonal skills, and information and communication technology skills, which are essential in modern scientific endeavor and are important life-enhancing, transferable skills in their own right.

Alongside the growth in our understanding of the natural world, perhaps the more obvious and relevant result of physics to most of our students is our ability to change the world. This is the technological side of physics, in which physical principles have been applied to construct and alter the material world to suit our needs, and have had a profound influence on the daily lives of all human beings—for good or bad.

This raises the issue of the impact of physics on society, the moral and ethical dilemmas, and the social, economic and environmental implications of the work of physicists. These concerns have become more prominent as our power over the environment has grown, particularly among young people, for whom the importance of the responsibility of physicists for their own actions is self-evident.

Physics is therefore, above all, a human activity, and students need to be aware of the context in which physicists work. Illuminating its historical development places the knowledge and the process of physics in a context of dynamic change, in contrast to the static context in which physics has sometimes been presented. This can give students insights into the human side of physics: the individuals; their personalities, times and social milieu; and their challenges, disappointments and triumphs.

The course is available at both standard level (SL) and higher level (HL), and therefore accommodates students who wish to study science in higher education and those who do not.

Group 5: Mathematics

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. For many people it is probably a combination of these, but there is no doubt that mathematical knowledge provides an important key to understanding the world in which we live.

Mathematics is a part of our lives in multiple ways: when we buy produce in the market, consult a timetable, read a newspaper, time a process or estimate a length. 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. Scientists view mathematics as a language that is central to our understanding of events that occur in the natural world. Some people enjoy the challenges offered by the logical methods of mathematics and the adventure in reason that mathematical proof has to offer. Others appreciate mathematics as an aesthetic experience or even as a cornerstone of philosophy. This prevalence of mathematics in our lives provides a clear and sufficient rationale for making the study of this subject compulsory within the DP.

Because individual students have differing needs, interests and abilities, there are two different courses in mathematics, each offered at a Standard (SL) and Higher (HL) level. Each course is designed to meet the needs of a particular group of students. Therefore, great care should be taken to select the course that is most appropriate for an individual student.

In making this selection, individual students should be advised to take account of the following types of factors.

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

Teachers are expected to assist with the selection process and to offer advice to students about how to choose the most appropriate course from the mathematics courses available at Omaha Central High School.

Mathematics: Applications and Interpretation is available at SL. The 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 includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics. Students are encouraged to solve real-world problems, construct and communicate this mathematically and interpret the conclusions or generalizations.

Students should expect to develop strong technology skills, and will be intellectually equipped to appreciate the links between the theoretical and the practical concepts in mathematics. All external assessments involve the use of technology. Students are also encouraged to develop the skills needed to continue their mathematical growth in other learning environments.

Mathematics: Analysis and Approaches is available at SL and HL. The course is designed for students who wish to pursue studies in mathematics at university or subjects that have a large mathematical content. It is for students who enjoy developing mathematical arguments, problem solving and exploring real and abstract application, with and without technology. Mathematics: Analysis and Approaches is developed from the current Mathematics HL and SL subjects.

The internally assessed component for both courses, the exploration, offers students a framework for developing independence in their mathematical learning through engaging in mathematical investigation and mathematical modelling. Students will be provided with

opportunities to take a considered approach to these activities, and to explore different ways of approaching a problem. The exploration also allows students to work without the time constraints of a written examination and to develop skills in communicating mathematical ideas.

Group 6: The Arts

The impulse to make art is common to all people. From earliest times, human beings have displayed a fundamental need to create and communicate personal and cultural meaning through art.

Visual Arts includes the processes in the study and production of visual arts and is central to developing capable, inquiring and knowledgeable young people, and encourages students to locate their ideas within international contexts. Supporting the principles of the IBO mission statement (that is, to foster students' appreciation of diverse world cultures and traditions), the course encourages an active exploration of visual arts within the students' own and other cultural contexts. The study of visual arts and the journey within it encourages respect for cultural and aesthetic differences and promotes creative thinking and problem solving.

Visual arts continually create new possibilities and can challenge traditional boundaries. This is evident both in the way we make art and in the way we understand what artists from around the world do. Theory and practice in visual arts are dynamic, ever changing and connect many areas of study and human experience through individual and collaborative production and interpretation.

New ways of expressing ideas help to make visual arts one of the most interesting and challenging areas of learning and experience. The processes of designing and making art require a high level of cognitive activity that is both intellectual and affective. Engagement in the arts promotes a sense of identity and makes a unique contribution to the lifelong learning of each student. Study of visual arts provides students with the opportunity to develop a critical and intensely personal view of themselves in relation to the world.

The DP visual arts course enables students to engage in both practical exploration and artistic production, and in independent contextual, visual and critical investigation, with option A students focusing more on the former and option B students on the latter. The course is designed to enable students to study visual arts in higher education and also welcomes those students who seek life enrichment through visual arts.

Difference between HL and SL

Because of the nature of the subject, quality work in visual arts can be produced by students at both HL and SL. The aims and assessment objectives are the same for visual arts students at both HL and SL.

Through a variety of teaching approaches, all students are encouraged to develop their creative and critical abilities and to enhance their knowledge, appreciation and enjoyment of visual arts.

The course content for HL and SL may be the same., however, due to the different amount of time available for each, students at HL have the opportunity to develop ideas and skills, to produce a larger body of work and work of greater depth. In order to reflect this, the assessment criteria are differentiated according to option and level. Please see the markband descriptors in the "Assessment criteria" section for more detail. There need be no direct relationship between the number of works produced, the time spent on each, and the quality achieved: a high level of performance at either HL or SL can be achieved in both a large

and small body of work.

International Mindedness

International-mindedness is an umbrella term through which the IB defines the goal of international education, and which is exemplified by the emphasis in all IB programmes on promoting global engagement, multilingualism and intercultural understanding. An internationally minded learner is one who is a competent communicator, open-minded and knowledgeable. The IB recognizes that their original definition of international minded arises out of 'western knowledge' and they are mindful of the influence of non-Western linguistic, humanistic, scientific, mathematical and artistic cultures.

Global engagement is a commitment to address humanity's greatest challenges in the classroom and beyond. IB students and teachers explore both global and local issues. The IB aims to empower people to be active learners who are committed to service within the community.

Intercultural understanding encourages students to critically appreciate critically their own perspective (beliefs, values, experiences and ways of knowing) as well as the perspectives of others. Intercultural understanding is about exploring human commonality, diversity and interconnection.

Multilingualism is learning a new language because learning to communicate in a variety of ways in more than one language is central to intercultural understanding. The roles of language is critical to forming identity and articulating culture.

From the *General regulations: Diploma Programme*

Article 12: Grades

Performance in each subject is graded on a scale of 7 points (maximum) down to 1 point (minimum). Performance in theory of knowledge and the extended essay are each graded on a scale of A (maximum) to E (minimum). The CAS requirement is not assessed. For the IB Diploma, a maximum of 3 points is awarded for combined performance in theory of knowledge and the extended essay. The maximum total DP points score is 45.

Article 13: Award of the diploma

13.1 All assessment components for each of the six subjects and the additional Diploma requirements must be completed in order to qualify for the award of the IB Diploma.

13.2 The IB diploma will be awarded to a candidate provided all the following requirements have been met:

- A. CAS requirements have been met
- B. The candidate's total points are 24 or more
- C. There is no "N" awarded for theory of knowledge, the extended essay or for a contributing subject
- D. There is no grade E awarded for theory of knowledge and/or the extended essay
- E. There is no grade 1 awarded in a subject/level
- F. There are no more than two grade 2s awarded (HL or SL)

- G. There are no more than three grade 3s or below awarded (HL or SL)
- H. The candidate has gained 12 points or more on HL subjects (for candidates who register for four HL subjects, the three highest grades count)
- I. The candidate has gained 9 points or more on SL subjects (candidates who register for two SL subjects must gain at least 5 points at SL)
- J. The candidate has not received a penalty for academic misconduct from the Final Award Committee

13.3 A maximum of three examination sessions is allowed in which to satisfy the requirements for the award of the IB Diploma. The examination sessions need not be consecutive.

General IB Mark Descriptors

Grade 7 Excellent performance

Demonstrates: conceptual awareness, insight, and knowledge and understanding which are evident in the skills of critical thinking; a high level of ability to provide answers which are fully developed, structured in a logical and coherent manner and illustrated with appropriate examples; a precise use of terminology which is specific to the subject; familiarity with the literature of the subject; the ability to analyze and evaluate evidence and to synthesize knowledge and concepts; awareness of alternative points of view and subjective and ideological biases, and the ability to come to reasonable, albeit tentative, conclusions; consistent evidence of critical reflective thinking; a high level of proficiency in analyzing and evaluating data or problem solving.

Grade 6 Very good performance

Demonstrates: detailed knowledge and understanding; answers which are coherent, logically structured and well developed; consistent use of appropriate terminology; an ability to analyze, evaluate and synthesize knowledge and concepts; knowledge of relevant research, theories and issues, and awareness of different perspectives and contexts from which these have been developed; consistent evidence of critical thinking; an ability to analyze and evaluate data or to solve problems competently.

Grade 5 Good performance

Demonstrates: a sound knowledge and understanding of the subject using subject-specific terminology; answers which are logically structured and coherent but not fully developed; an ability to provide competent answers with some attempt to integrate knowledge and concepts; a tendency to be more descriptive than evaluative although some ability is demonstrated to present and develop contrasting points of view; some evidence of critical thinking; an ability to analyze and evaluate data or to solve problems.

Grade 4 Satisfactory performance

Demonstrates: a secure knowledge and understanding of the subject going beyond the mere citing of isolated, fragmentary, irrelevant or 'common sense' points; some ability to structure answers but with insufficient clarity and possibly some repetition; an ability to express knowledge and understanding in terminology specific to the subject; some understanding of the way facts or ideas may be related and embodied in principles and concepts; some ability to develop ideas and substantiate assertions; use of knowledge and understanding which is more descriptive than analytical; some ability to compensate for gaps in knowledge and understanding through rudimentary application or evaluation of that knowledge; an ability to interpret data or to solve problems and some ability to engage in analysis and evaluation.

Grade 3 Mediocre performance

Demonstrates: some knowledge and understanding of the subject; a basic sense of structure

that is not sustained throughout the answers; a basic use of terminology appropriate to the subject; some ability to establish links between facts or ideas; some ability to comprehend data or to solve problems.

Grade 2 Poor performance

Demonstrates: a limited knowledge and understanding of the subject; some sense of structure in the answers; a limited use of terminology appropriate to the subject; a limited ability to establish links between facts or ideas; a basic ability to comprehend data or to solve problems.

Grade 1 Very poor performance

Demonstrates: very limited knowledge and understanding of the subject; almost no organizational structure in the answers; inappropriate or inadequate use of terminology; a limited ability to comprehend data or to solve problem





What is an IB education?

INQUIRERS

KNOWLEDGEABLE

THINKERS

RISK-TAKERS

OPEN-MINDED

REFLECTIVE

COMMUNICATORS

PRINCIPLED

BALANCED

CARING

APPROACHES
TO LEARNING

APPROACHES
TO TEACHING



A path to international mindedness

OMAHA



CENTRAL

**INTERNATIONAL BACCALAUREATE
WORLD SCHOOL**

Cathy Andrus

IB Diploma Programme Coordinator

Cathy.Andrus@ops.org
531-299-5654

Omaha Central High School
124 North 20th Street
Omaha, NE 68102

<https://www.ops.org/central>

For additional information:

International Baccalaureate Organization website
www.ibo.org

Central High School website
central.ops.org



I THINK, THEREFORE IB!