Are you ready to make the transition from IB Prep to the IB Diploma Programme?

The following course descriptions will give you a better understanding of what to expect for your IB Junior and Senior level classes as well as IB core requirements. As you enter your IB Junior year, there are also certain IB groups/subjects for which you have options of which course to take. Please take a moment to read over the course descriptions so that you will have a better understanding of the subjects you will be studying as well as your subject options when it is time to select your courses for next year.

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<tr>
<th>IB Group</th>
<th>Subject</th>
<th>Offered at HL or SL</th>
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<td><strong>Group 1 - Studies in Language &amp; Literature</strong></td>
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<tr>
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<td>Spanish B</td>
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<td></td>
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<td><strong>Group 3 - Individuals &amp; Societies</strong></td>
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<td><strong>Group 4 - Experimental Sciences</strong></td>
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<td>Chemistry</td>
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<td>Physics</td>
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<td><strong>Group 5 - Mathematics &amp; Computer Science</strong></td>
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<td><strong>Group 6 - The Arts</strong></td>
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<td>Music</td>
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<td></td>
<td>Visual Arts</td>
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<td>Information Technology in a Global Society (ITGS)</td>
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<td>Environmental Systems &amp; Societies (IBES)</td>
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Group 1

Language A: Literature (English)

The aims of language A: literature at SL and at HL are to:

1. Introduce students to a range of texts from different periods, styles and genres
2. Develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
3. Develop the students' powers of expression, both in oral and written communication
4. Encourage students to recognize the importance of the contexts in which texts are written and received
5. Encourage, through the study of texts, an appreciation of the different perspectives of people from other cultures, and how these perspectives construct meaning
6. Encourage students to appreciate the formal, stylistic and aesthetic qualities of texts
7. Promote in students an enjoyment of, and lifelong interest in, language and literature.

Group 2 (You may also study an additional language as your Group 6 subject if you have taken that language in 9th and 10th grade)

Language B (Spanish or French)

Offered at both the higher and standard levels in twenty-eight languages, Language B is designed for second language learners and focuses principally on the interaction of speakers and writers of the target language. The aim of the course is to prepare students to use the language appropriately in a range of situations and contexts and for a variety of purposes. The course also allows students to develop an awareness and appreciation of the culture(s) of the countries in which the target language is spoken. The skills of listening, speaking, reading and writing are equally emphasized and are taught and developed through the study of a range of authentic oral and written texts chosen by the teacher. A variety of oral and written examinations are used to assess the student's listening, speaking, reading and writing skills. Prior to enrolling in a Language B course, it is assumed that students have some previous exposure to the target language.

Classical Languages (Latin)

Offered at both the higher and standard levels, Latin and Classical Greek, albeit separate courses, are both subject to the same Classical Languages requirements. The courses involve an introduction to the language, literature and culture of ancient Greece and Rome. The courses also involve studying the historical development and wider cultural achievements of ancient Greek and Roman society. Surviving texts are studied in the original language, and linguistic skills are at the heart of the course. Additional texts are set for study in translation, but the foundation of the course remains the acquisition of language skills.

Group 3

HISTORY (Americas – Peacemaking)
Offered at both the higher and standard levels, History is designed to focus on the following areas:
devolving an understanding of the past through exposure to primary historical sources and through
the work of historians; selecting, interpreting and forming a critical evaluation of historical data;
appreciating the relative nature of historical knowledge and understanding, as each generation
reflects its own world; fostering an understanding of major historical events in a global context;
redeveloping an understanding of, and empathy for, people living in other periods and contexts. Both
the HL and SL syllabus consist of an in-depth study of an individual prescribed subject and the
selection of two topics. The course may cover route 1 (an exploration of the main developments in
the history of Europe and the Islamic world from 500-1570) or route 2 (an exploration of the main
developments in 20th century world history).

***Route 2 is studied at Paxon.***

Those who follow Route 2 will have three prescribed subjects (peacemaking, peacekeeping and
international relations 1913-1936, the Arab-Israeli conflict 19-45-1979, and Communism in crisis,
1976-1989). Additionally, Route 2 participants must choose to study two of the following topics
(Causes, practices and effects of War, Democratic states, challenges and responses, Origins and
development of authoritarian and single party states, Nationalist and independence movements in
Africa and Asia post-1945 Central and Eastern European states, the Cold War).

Group 4 (Select one science to study over 2 years. You may also study an additional science as
your Group 6 subject)

Biology
Offered at both the higher and standard levels, Biology is designed to give students a secure
knowledge of a body of facts and, at the same time, a broad understanding of the field of biology.
The course includes both a theoretical and practical focus. The core of the Biology program
consists of study in six required topics: (1) statistical analysis; (2) cells; (3) the chemistry of life;
(4) genetics; (5) ecology and evolution; and (6) human health and physiology. Higher Level students
must also study additional topics which include (7) nucleic acids and proteins; (8) cell respiration and
photosynthesis; (9) plant science; (10) genetics; and (11) human health and physiology. Optional
course topics at the standard level only include: (A) human nutrition and health; (B) physiology of
exercise; and (C) cells and energy. Options for both HL and SL include: (D) evolution; (E)
neurobiology and behavior, (F) microbes and biotechnology, and (G) ecology and conservation. One
option available to only HL students is (H) Further human physiology. Students at SL study the core
of these options, and students at HL study the whole option (that is, the core and the extension
material). Students are SL are required to study any two options from list A-G. Students at HL are
required to study any two options from D-H.

Chemistry
Offered at both the higher and standard levels, the core of the Chemistry program consists of a
study in eleven topics: (1) Quantitative chemistry; (2) Atomic structure; (3) periodicity; (4) bonding;
(5) energetics; (6) kinetics; (7) equilibrium; (8) acids and bases; (9) oxidation and reduction; (10)
organic chemistry; and (11) measurement and data processing. Students at the higher level perform
further study in all of these areas. Options offered at both SL and HL include: (A) modern
analytical chemistry; (B) human biochemistry; (C) chemistry in industry and technology; (D)
medicines and drugs; (E) environmental chemistry; (F) food chemistry; and (G) further organic
chemistry. Students at SL are required to study any two options from A-G. Students at HL are required to study any two options from options A-G at a more in-depth level. Students at the SL study the core of the options and students at HL study the whole option (that is, the core and the extension material).

**Physics**

Offered at both the higher and standard levels, Physics is designed to introduce students to the laws of physics, the experimental skills required in physics, and the social and historical aspects of physics as an evolving body of human knowledge about nature. The core of physics consists of study in eight topics: (1) physics and physical measurement; (2) mechanics; (3) thermal physics; (4) oscillations and waves; (5) electric currents; (6) fields and forces; (7) atomic and nuclear physics; and (8) energy, power and climate change. At the higher level, additional topics include: (9) motion in fields; (10) thermal physics; (11) wave phenomena; (12) electromagnetic induction; (13) quantum physics and nuclear physics; and (14) digital technology. SL options include: (A) sight and wave phenomena; (B) quantum physics and nuclear physics; (C) digital technology; and (D) relativity and particle physics. Options for SL and HL include: (E) astrophysics; (F) communications; and (G) electromagnetic waves. SL students study the core of these options, and HL students study the whole option (that is, the core and the extension material). The following options are available at HL only: (H) relativity; (I) medical physics; and (J) particle physics.

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**Group 5 (Mathematics)**

**Mathematical Studies**

The aim of mathematical studies is to provide a course for students with varied backgrounds and abilities. More specifically, it is designed to build confidence and encourage an appreciation of mathematics in students who do not anticipate a need for theoretical mathematics at university. The course concentrates on mathematics that can be applied to real-world occurrences and everyday situations. The Mathematical Studies syllabus consists of the study of eight core topics: (1) introduction to the graphic display calculator; (2) numbers and algebra; (3) sets, logic and probability; (4) functions; (5) geometry and trigonometry; (6) statistics, and (7) introductory differential calculus.

**Mathematics Higher Level (only for students who have completed AP Calculus AB)**

Offered at the higher level only, Mathematics HL is designed for students who will continue in an academic study of mathematics at university and for students who have a good background and genuine interest in mathematics and who enjoy meeting its challenges and problems. All students must study seven core topics: (1) algebra; (2) functions and equations; (3) circular functions and trigonometry; (4) matrices; (5) vectors; (6) statistics and probability; and (7) calculus. Students must also study all the sub-topics in one of the following options: (8) statistics and probability; (9) sets, relations and groups; (10) series and differential equations, and (11) discrete mathematics. Students will also complete a portfolio with two pieces of work, based on different areas of the syllabus, representing the following two types of tasks: mathematical investigation and mathematical modeling.
Group 6 (Select one of the subjects below, or you may select a second science from Group 4. You may also select second Group 2 subject if you have studied that language during 9th and 10th grade)

Theatre Arts
Offered at both the higher and standard levels, Theatre Arts is designed to help students understand the nature of theatre by doing it as well as studying it, and to understand the forms it takes in cultures other than their own. Having completed the course, students will be expected to demonstrate the following: a knowledge of the major developments and techniques in the theatrical history of more than one culture; an ability to interpret play scripts and other theatrical texts analytically and imaginatively; an understanding of the art of the stage and the essential nature of criticism in the theatre; an ability to perform before an audience, and to demonstrate and understanding of, and some skill in, at least one of the theatrical arts or crafts; and an understanding of the basic processes of theatrical production.

Visual Arts
Offered at both the higher and standard levels, Visual Arts is designed to: provide students with opportunities to develop aesthetic, imaginative and creative facilities; stimulate and develop visual awareness, perception and criticism of the arts of various cultures; to enable students to discover, develop and enjoy means of creative visual expression; encourage the pursuit of quality through training, individual experiment and persistent endeavor; and encourage a lively, inquiring and informed attitude toward art and design in all its forms.

Music
Offered at both the standard and higher levels, the aims of the Music course are for students to: become aware of how artists work and communicate; enjoy a lifelong engagement with the arts; become informed, reflective and critical practitioners in the arts; understand the dynamic and changing nature of the arts: explore and value the diversity of the arts across time, place and cultures; express ideas with confidence and competence; develop perceptual and analytical skills.; develop knowledge and potential as musicians, both personally and collaboratively.

Environmental Systems and Societies (IBES)
Offered at only the standard level, this course is a trans-disciplinary course combining Group 3 and Group 4 topics. The aims of the environmental systems and societies course are to: promote understanding of environmental processes at a variety of scales, from local to global; provide a body of knowledge, methodologies and skills that can be used in the analysis of environmental issues at local and global levels; enable students to apply the knowledge, methodologies and skills gained; promote critical awareness of a diversity of cultural perspectives; recognize the extent to which technology plays a role in both causing and solving environmental problems; appreciate the value of local as well as international collaboration in resolving environmental problems; appreciate that environmental issues may be controversial, and may provoke a variety of responses; and appreciate that human society is both directly and indirectly linked to the environment at a number of levels and at a variety of scales.

Information Technology in a Global Society (ITGS)
Offered at both higher and standard level (at Paxon, only at standard level), information technology in a global society (ITGS) course is the study and evaluation of the impacts of information
technology (IT) on individuals and society. It explores the advantages and disadvantages of the access and use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts.
IB CORE REQUIREMENTS

Theory of Knowledge
Required of all International Baccalaureate students, the aims of the Theory of Knowledge course are to: develop a fascination with the richness of knowledge as a human endeavor, and an understanding of the empowerment that follows from reflecting upon it; develop an awareness of how knowledge is constructed, critically examined, evaluated and renewed, by communities and individuals; encourage students to reflect on their experiences as learners, in everyday life and in the Diploma Program, and to make connections between academic disciplines and between thoughts, feelings and actions; encourage an interest in the diversity of ways of thinking and ways of living of individuals and communities, and an awareness of personal and ideological assumptions, including participants’ own; and encourage consideration of the responsibilities originating from the relationship between knowledge, the community and the individual as citizen of the world.

Creativity, Action, Service (CAS)
Creativity, action, 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. It involves students in a range of activities alongside their academic studies throughout the Diploma Programme. The three strands of CAS, which are often interwoven with particular activities, are characterized as follows:

<table>
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<th>Creativity</th>
<th>arts, and other experiences that involve creative thinking.</th>
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<tr>
<td>Action</td>
<td>physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the Diploma Programme.</td>
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<tr>
<td>Service</td>
<td>an unpaid and voluntary exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected.</td>
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CAS enables students to enhance their personal and interpersonal development through experiential learning. At the same time, it provides an important counterbalance to the academic pressures of the rest of the Diploma Programme. A good CAS programme should be both challenging and enjoyable, a personal journey of self-discovery. Each individual student has a different starting point, and therefore different goals and needs, but for many their CAS activities include experiences that are profound and life-changing.

(There will be a CAS student/parent meeting on March 8, 2012 @ 6pm in the Paxon auditorium)

Extended Essay
The extended essay is an in-depth study of a focused topic chosen from the list of approved Diploma Programme subjects—normally 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 (a teacher in the school). This leads to a major
piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen. It is recommended that completion of the written essay is followed by a short, concluding interview, or viva voce, with the supervisor. In the Diploma Programme, the extended essay is the prime example of a piece of work where the student has the opportunity to show knowledge, understanding and enthusiasm about a topic of his or her choice. In those countries where it is the norm for interviews to be required prior to acceptance for employment or for a place at university, the extended essay has often proved to be a valuable stimulus for discussion.

(Attached sample outline of Paxon’s Extended Essay schedule passed out during course registration during 10th grade year)