

# Rockville HS – International Baccalaureate (IB) Program

Students planning to pursue study in the International Baccalaureate have three options available to them:

- a. The IB Diploma (students earn a Diploma from the International Baccalaureate in addition to their MD state diploma)
- b. The IB Career Program (students earn a Certificate from the International Baccalaureate)
- c. Enroll in selected individual courses

**Please note that all IB programming and coursework is only available to 11th and 12th grade students**

## Option A IB Diploma

### IB Diploma Students

1. Please make sure to register for the classes that you discuss with Mrs. Ainsworth during your IB meeting
2. If you want to make a change, be sure to discuss it with Mrs. Ainsworth
3. All juniors must register for IB Theory of Knowledge 1 /Extended Essay A /B
4. All seniors must register for Theory of Knowledge ½
5. All Juniors and Seniors must take IB English as an HL. Juniors will take IB Language and Literature 1, and Seniors will take IB English Language and Literature 2.
6. All IB students must take 3 HL (2 year classes) and 3 SL (one year) classes over the course of their junior and senior years
7. There is a fee to take IB exams

### Sample IB Junior Schedule

IB English Language and Literature 1 A and B
IB Theory of Knowledge 1/ Extended Essay A/B
World Language Course (appropriate level )
IB Math SL or HL
IB HL course *
IB HL course *
Elective or IB SL course

\* You must take a total of 3 HL classes, so if World Language or Math will be one of your HL's, you will not need both of these slots for HL classes \*

### Sample IB Senior Schedule

IB English Language and Literature 2 A and B
IB Theory of Knowledge ½
IB Math
World Language Course (if you did not test last year)
IB HL Course *
IB HL Course *

Elective or IB SL course (if needed)

\*If you are taking World Language as an HL, you will not need these slots for HL classes \*

### **Option B IB Career Program**

#### **IB Career Program Students**

1. Please make sure you register for the IB classes that you discuss with Mrs. Ainsworth during your IB meeting.
2. If you want to make a change, be sure to discuss it with Mrs. Ainsworth.
3. All Juniors must register for IB Personal and Professional Skills A and B
4. All Seniors must register for IB Personal and Professional Skills C and D
5. All juniors must register for one 2-year IB Course during their junior year which they will complete their senior year. All students must take one SL course as well. Students may take more than two IB classes if they want to.
6. All Students must complete a career pathway.
7. There is a fee to take IB exams

### **Career Pathways at Rockville High School**

#### **Project Lead the Way Advanced Engineering (4 or 5 courses)**

Principles of Engineering  
Introduction to Engineering Design  
Digital Electronics  
Aerospace Engineering (if you only do 4 classes this one will not be needed)  
Engineering Design and Development

#### **Project Lead the Way Biomedical Sciences (4 credits)**

Principles of Biomedical Science  
Human Body Systems  
Medical Interventions  
Biomedical Innovations

#### **Computer Science (2 or 4 course pathway)**

The two course pathway includes Foundations of Computer Science and AP Computer Science Principles.  
The four course pathway includes all of the courses listed except for Foundations of Computer Science.

Foundations of Computer Science  
AP Computer Science Principles  
Programming 1  
AP Computer Science Java  
IB Computer Science 1

#### **Child Development Associate Preschool Program (4 courses):**

Child Growth and Development  
Learning Environment for Preschoolers  
Establishing a Purposeful Preschool Program  
Adv. Intern Education

#### **Hospitality and Tourism Management (2 courses and an internship)**

Hospitality Tourism Management 1  
Hospitality Tourism Management 2

Hospitality Internship (2 credits)

**Broadcast Journalism (2 credits)**

Broadcast Journalism 1  
Broadcast Journalism 2

**Sample IB Junior year schedule with a Career Pathway**

IB PPS
Career Pathway Course
IB HL course
IB SL course (this can be done senior year or junior year)

**Sample IB Senior year schedule with a Career Pathway**

IB PPS semester A /Research Project semester B
IB HL course
IB SL course ( if not taken during the junior year)
Career Pathway course

**Option C IB Course Student**

Interested juniors and seniors may enroll in the following IB courses if interested. Please note that students will be expected to take the corresponding IB exam at the end of the course

- a. IB English HL (this is a two year course)
- b. IB History HL (this is a two year course and counts as the Modern World History graduation requirement)
- c. IB Environmental Science
- d. IB Chemistry
- e. IB Computer Science (please note the AP Java is a prerequisite)
- f. IB Social Cultural Anthropology
- g. IB Global Politics
- h. IB Theater

**Rockville HS – IB Programme Courses**

Course Code	Course Title	GR	Description
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***TOK and PPS - All IB students are required to take a course which involves the development of critical thinking skills. Diploma students take TOK and Career Students take PPS***

SOC 2017 A/B	IB Theory of Knowledge (TOK) 1 Essay A/B	11	Introduction to sources, varieties and systems of knowledge for IB Diploma Students
SOC 2015 SOC 2016	IB Theory of Knowledge (TOK) 1/2	12	Introduction to sources, varieties and systems of knowledge for IB Diploma Students
ITR 2002 A/B	Personal and Professional Skills (PPS)	11	Introduction to organizational, collaborative, problem-solving, thinking and information literacy skills for IB Career Program Students
ITR 2002 C ITR 2002D	Personal and Professional Skills (PPS) -	12	Introduction to organizational, collaborative, problem-solving, thinking and information literacy skills for IB Career Program Students.

***IB English - All Diploma students must take IB English as an HL. Career Students may select this course.***

ENG 2045 A/B	IB English Language and Literature 1 A/B  <b>Prerequisite English 10 Juniors Only</b>	11	This first year of a required two-year sequence includes in-depth analysis of both literary and nonliterary texts. One of three papers for the external assessment is written, and one of two oral assessments is completed for a portion of the IB score. All work is designed to prepare students for both the oral and written portions of the higher-level IB English Language and Literature exam.
ENG 2046 A/B	IB English Language and Literature 2 A/B  <b>Prerequisite IB English 1 Seniors Only</b>	12	This course completes the requirements for the higher-level IB English Language and Literature exam. The aim of the course is the development of an understanding of “critical literacy” in students. Students produce a critical response evaluating aspects of text, context, and meaning, and demonstrate an ability to write a balanced, comparative analysis.

***IB Math Courses - All Diploma students must take one IB math class. Career students may select one of these courses.***

MAT 2081 A/B	IB Approaches, Statistics and Calculus (Year 1 - SL)  <b>Prerequisite Alg 2 (H) Juniors Only</b>	11	This course explores numeric, algebraic, geometric, and trigonometric functions through the lens of practical applications of math in a data-rich and technology driven world. Application and problem solving skills are developed through the exploration of these functions as well as statistics, probability, and differential calculus.
MAT 2063 A/B	IB Analysis, Statistics and Calculus (Year 1 - HL)  <b>Prerequisite</b>	11	This course utilizes numeric, algebraic, geometric, and trigonometric functions, as well as statistics, probability, and calculus to develop mathematical thinking skills. Students explore real and abstract theories/applications to strengthen mathematical modeling and problem solving skills.

	<b>Algebra 2 (H) Juniors Only</b>		
MAT 2082 A/B	IB Approaches, Statistics and Calculus (Year 2 -SL)  <b>Prerequisite Year 1 - SL Seniors Only</b>	12	HL students study the same topics outlined in the IB Mathematics Applications SL Course description with significant time dedicated to the teaching of advanced techniques in statistics, probability, and both differential & integral calculus.

MAT 2064 A/B	IB Analysis, Statistics and Calculus (Year 2 - HL)  <b>Prerequisite Year 1 - HL Seniors Only</b>	12	This course further develops the mathematical and problem solving skills developed in IB Math Analysis SL. Further attention is paid to advanced trigonometric topics, statistical analysis, as well as integrable calculus.
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*IB Science Courses - All Diploma Students must take one of these courses and may take additional courses if desired. Career students may select any of these courses.*

SCI 2080 A/B	IB Biology HL A/B  <b>Prerequisite Chemistry  Juniors Only</b>	11	IB Biology offers extensive laboratory experiences and emphasizes critical analysis of scientific information; evaluation of biological knowledge with respect to those problems facing mankind at present, and synthesis of biological information from different areas of the field. Topics include biochemistry, cytology, molecular genetics and heredity and variation. Students prepare for the higher-level IB Biology exam. This course can only be taken over two years, year 1 as a junior and year 2 as a senior
SCI2083 A/B	IB Biology 2 HL A/B  <b>Prerequisite IB Biology HL year 1  Seniors Only</b>	12	This course covers the same topics as in IB Biology HL but it is the 2 <sup>nd</sup> Biology course in the IB matrix.
SCI 2087 A/B	IB Chemistry A/B  <b>Prerequisite Chemistry (H)</b>	11- 12	This course is a study of the materials of our environment, their properties, and the ways in which they react with each other. Topics of study include stoichiometry, atomic theory, periodicity, bonding, states of matter, energetics, kinetics, equilibrium, acids and bases, oxidation and reduction, organic chemistry, and optional additional studies. This course prepares students for the IB standard-level Chemistry examination.
SCI 2096 A/B	IB Physics 1 A/B	11- 12	Students investigate physical laws and theories, relationships of physical phenomena, and interrelationships of physics and other fields of human endeavor. Some topics include vector mathematics, kinematics, dynamics, energy, thermodynamics, electricity and magnetism, and nuclear structure and energy. Additional focus is placed on the social and historical perspective in which physical ideas have developed throughout the world. This course prepares students

			for the IB Physics examination which is given after IB Physics 2.
SCI 2097 A/B	IB Physics 2 A/B  <b>Seniors Only</b>	12	The course content includes the study of physical measurement, mechanics, thermal atomic and nuclear physics, oscillations and waves, electric currents, fields and forces, and energy power and climate change. Students will complete their internal assessments in this course.
SCI 2090 A/B	IB Environmental Systems A/B	11- 12	Students learn the scientific principles, concepts, and methodologies required to understand the environment, evaluate the relative risks associated with environmental problems, and examine alternative solutions for resolving and/or preventing them. Laboratory and field investigations complement the classroom portion of the program. This course prepares students for the IB standard-level environmental systems exams.
ITC 2064 ITC 2065	IB Computer Science 1	11- 12	This course develops an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate. During the course, students will develop computational solutions. This will involve the ability to identify a problem or unanswered question, design, prototype and test a proposed solution, and liaise with clients to evaluate the success of the proposed solution and make recommendations for future developments.
<b><i>IB Social Studies Courses - All Diploma Students must take one of these courses and may take additional courses if desired. Career students may select any of these courses.</i></b>			

SOC 2043 A/B	IB History 1 A/B <b>Juniors Only</b>	11	This course surveys European and World History from 1750-1900 and is the first year of a two year course of study that prepares students for the IB History exam.
SOC 2074 A/B	IB History 2 A/B  <b>Prerequisite History 1 IB  Seniors Only</b>	12	This course is a detailed study of 20 <sup>th</sup> century history including the rise of single party states and causes practices and effects of war. Students are prepared for the IB History HL exam
SOC 2044 A/B	IB Psychology A/B	11- 12	Focuses on the nature of human beings and the methods of psychological inquiry. Students study human behavior from a cognitive, behavioral and psychodynamic perspective
SOC 2048 A/B	IB Social and Cultural Anthropology	11- 12	Social and cultural anthropology is the comparative study of culture and human societies. Anthropologists seek an understanding of humankind in all its diversity. Social and cultural anthropology places special emphasis on comparative perspectives that challenge cultural assumptions.

SOC 2018 A/B	IB Global Politics	11- 12	Students explore fundamental political concepts such as power, equality, sustainability, and peace, in a range of contexts. Students develop an understanding of the local, national, international, and global dimensions of political activity and processes, as well as 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. It also invites comparison between these examples and case studies to ensure a wider and transnational perspective.
<b><i>IB World Language Courses - All Diploma students must take one IB World Language class. Career students may select one of these courses.</i></b>			
WLG 2227 A/B	IB Spanish 5  <b>Prerequisite Spanish 4 (H) or Spanish for Spanish Speakers 3</b>	11- 12	An advanced Spanish communications course where the focus is to strengthen communication skills and awareness of the culture and everyday life of Spanish speakers. Preparation for the IB exam.
WLG 2228 A/B	IB Spanish 6  <b>Prerequisite IB Spanish 5</b>	11- 12	Continuation of the advanced Spanish communications course using everyday situations and media sources to enhance their communication skills. IB exam preparation
WLG 2229 A/B	IB Spanish 7 (HL)  <b>Prerequisite IB Spanish 6/ IB Spanish 5 Seniors Only</b>	11- 12	Prepares students to take the HL IB Spanish exam by continuing with communication skills and including famous Spanish literature.
WLG2230 A/B	IB Spanish Language and Literature <b>Prerequisite AP Spanish Language or appropriate Spanish for Native Speaker Course</b>	11- 12	IB Language A Language and Literature courses prepare students to take the International Baccalaureate Language A exams at either the standard or higher level Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors written analyses and critiques of this literature and other oral and written assignments The course is designed for students competent in using Spanish in an academic context
WLG 2209 A/B	IB French 5  <b>Prerequisite French 4 (H)</b>	11- 12	An advanced French communications course where the focus is to strengthen communication skills and awareness of the culture and everyday life of French speakers. Preparation for the IB exam
WLG 2210 A/B	IB French 6  <b>Prerequisite IB French 5</b>	11- 12	Continuation of the advanced French communications course using everyday situations and media sources to enhance their communication skills. IB exam preparation
WLG 2211 A/B	IB French 7  <b>Prerequisite French 6</b>	11- 12	Continuation of the advanced French communications course using everyday situations and media sources to enhance their communication skills. HL exam preparation.

	<b>Seniors Only</b>		
<p><i>IB Arts Courses - Diploma and Career students may take one of these classes. Diploma students who do not take one of the Arts classes must take a second Social Studies or Science Class instead.</i></p>			

ART 2018 A/B	IB Visual Arts 1 A/B (SL/HL)	11- 12	Students develop their aesthetic, imaginative, and creative faculties. Emphasis is on visual awareness, multicultural expression, and historical references. An expressive verbal and visual journal, demonstrating the interrelationship between the student's personal research and studio work, is required by the standard-level IB Art and Design assessment.
ART 2021 A/B	IB Visual Arts 2 A/B (HL)  <b>Prerequisite IB Visual Arts 1 Seniors Only</b>	12	Students develop their aesthetic, imaginative, and creative faculties. Emphasis is on visual awareness, multicultural expression, and historical references. An expressive verbal and visual journal, demonstrating the interrelationship between the student's personal research and studio work, is required by the standard-level IB Art and Design assessment.
ART 2106 A/B	IB Theater 1 A/B	11- 12	IB Theatre explores a range of creative works in a global context and emphasizes practical production by the student. Assessments include a practical play analysis, a reflective and analytical portfolio of their theatrical work, and research that applies theoretical and historical concepts to a contemporary production. Students are prepared for the standard-level IB examination. Writing and thinking skills are reinforced through journaling.

### **Option C IB Course Student**

Interested juniors and seniors may enroll in the following IB courses if interested. Please note that students will be expected to take the corresponding IB exam at the end of the course

- i. IB English HL (this is a two year course)
- j. IB History HL (this is a two year course and counts as the Modern World History graduation requirement)
- k. IB Environmental Science
- l. IB Chemistry
- m. IB Computer Science (please note the AP Java is a prerequisite)
- n. IB Social Cultural Anthropology
- o. IB Global Politics
- p. IB Theater
- q. IB Spanish Language and Literature



ENG 2045 A/B	<p>IB English Language and Literature 1 A/B</p> <p><b>Prerequisite</b> <b>English 10</b> <b>Juniors Only</b></p>	11	This first year of a required two-year sequence includes in-depth analysis of both literary and nonliterary texts. One of three papers for the external assessment is written, and one of two oral assessments is completed for a portion of the IB score. All work is designed to prepare students for both the oral and written portions of the higher-level IB English Language and Literature exam.
SOC 2043 A/B	<p>IB History 1 A/B</p> <p><b>Juniors Only</b></p>	11	This course surveys European and World History from 1750-1900 and is the first year of a two year course of study that prepares students for the IB History exam.
SCI 2090 A/B	<p>IB Environmental Systems A/B</p>	11-12	Students learn the scientific principles, concepts, and methodologies required to understand the environment, evaluate the relative risks associated with environmental problems, and examine alternative solutions for resolving and/or preventing them. Laboratory and field investigations complement the classroom portion of the program. This course prepares students for the IB standard-level environmental systems exams.
SCI 2087 A/B	<p>IB Chemistry A/B</p> <p><b>Prerequisite</b> <b>Chemistry (H)</b></p>	11-12	This course is a study of the materials of our environment, their properties, and the ways in which they react with each other. Topics of study include stoichiometry, atomic theory, periodicity, bonding, states of matter, energetics, kinetics, equilibrium, acids and bases, oxidation and reduction, organic chemistry, and optional additional studies. This course prepares students for the IB standard-level Chemistry examination.
ITC 2064 ITC 2065	<p>IB Computer Science 1</p> <p><b>Prerequisite</b> <b>AP Java</b></p>	11-12	This course develops an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate. During the course, students will develop computational solutions. This will involve the ability to identify a problem or unanswered question, design, prototype and test a proposed solution, and liaise with clients to evaluate the success of the proposed solution and make recommendations for future developments.
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WLG2230A/B	IB Spanish Language and Literature  <b>Prerequisite</b> <b>AP Spanish Language or</b> <b>appropriate Spanish for Native</b> <b>Speaker Course</b>	11-12	IB Language A Language and Literature courses prepare students to take the International Baccalaureate Language A exams at either the standard or higher level Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors written analyses and critiques of this literature and other oral and written assignments The course is designed for students competent in using Spanish in an academic context

*For any other options and questions please see Ms. Laurie Ainsworth, IB Coordinator, for guidance and information.*