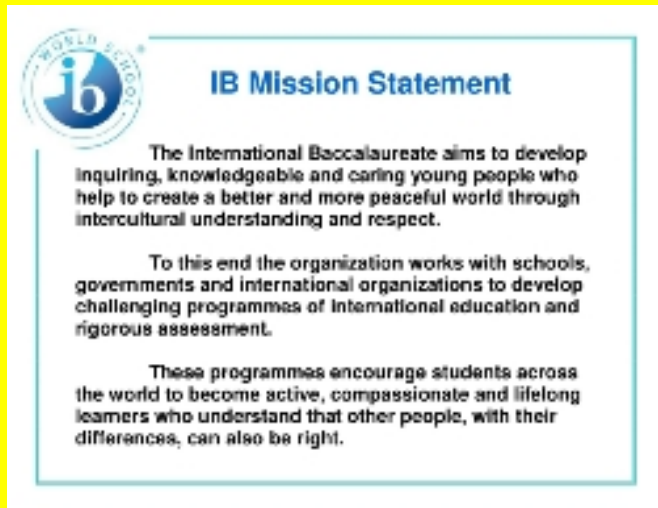


# welcome to international baccalaureate (IB) chemistry at GHS:

# year 2

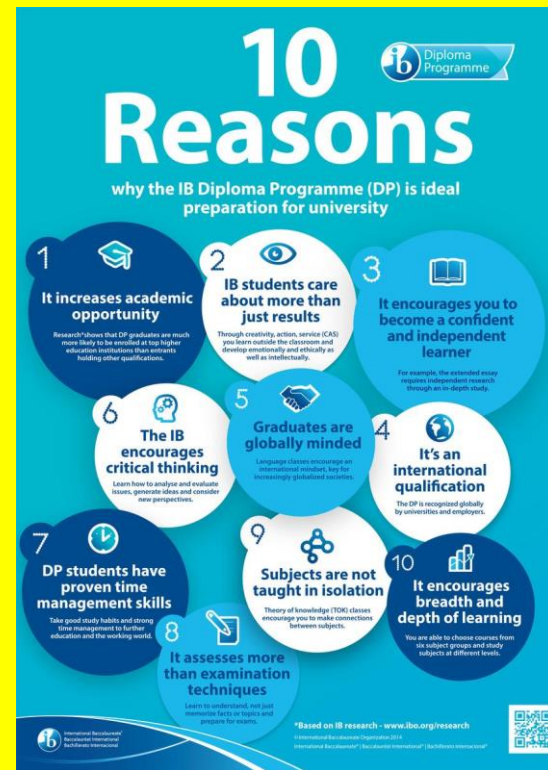
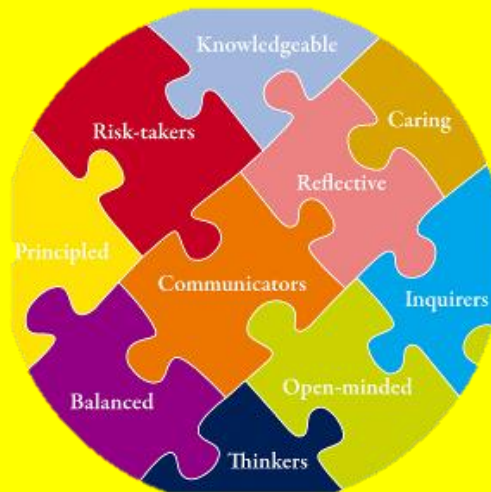


**IB Mission Statement**

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.



## 10 Reasons

why the IB Diploma Programme (DP) is ideal preparation for university

- It increases academic opportunity**  
Research shows that DP graduates are much more likely to be enrolled at top higher education institutions than students holding other qualifications.
- IB students care about more than just results**  
Through creativity, action, service (CAS) you learn outside the classroom and develop emotionally and ethically as well as intellectually.
- It encourages you to become a confident and independent learner**  
For example, the extended essay requires independent research through an in-depth study.
- It's an international qualification**  
The DP is recognized globally by universities and employers.
- Graduates are globally minded**  
Language classes encourage an international outlook, key for successfully globalized societies.
- The IB encourages critical thinking**  
Learn how to analyze and evaluate issues, generate ideas and consider new perspectives.
- DP students have proven time management skills**  
Take good study habits and strong time management to further education and the working world.
- It assesses more than examination techniques**  
Learn to communicate, use and evaluate facts on topics and people for research.
- Subjects are not taught in isolation**  
Theory of knowledge (TOK) classes encourage you to make connections between subjects.
- It encourages breadth and depth of learning**  
You are able to choose courses from six subject groups and study subjects at different levels.

Based on IB research - [www.ibo.org/research](http://www.ibo.org/research)



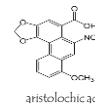
Name (include the first name you'd like to be called in class) \_\_\_\_\_ Period \_\_\_\_\_

day 1 survey IB Chem

welcome back to IB chemistry!

please fill out the survey below to get started.

*please always include the period; it helps  
me keep things in the right folders*



1. What IB courses did you take ;ast year
2. What did you think of the courses overall?
3. Please comment on one IB course of your choice
4. What did you do this past summer?
5. What should we do differently this year? Long answers welcome.





IB HL Chemistry Syllabus  
Dr. Harry Brielmann  
Guilford High School 2017-19

General Course Description:

Welcome to IB Chemistry!!

IB HL Chemistry is a two year experimental science course that combines academic study with the acquisition of practical and investigational skills through advanced, lab-based chemistry curriculum. 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, engineering, and environmental science. This class will help prepare you for IB HL Chemistry certification through coursework and activities that strengthens the student's body of knowledge, methods, and techniques that characterize science and technology. Students will be encouraged, throughout the course, to apply the nature of scientific knowledge and the scientific process to chemistry concepts, applications, and theories, and to consider their impact on societies.

Course Objective Goals:

Through the study of IB HL Chemistry students will:

- Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- Develop an ability to analyze, evaluate and synthesize scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills including the use of current technologies
- Develop and apply 21st century communication skills in the study of science
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an appreciation of the possibilities and limitations of science and technology
- Demonstrate the appropriate research, experimental, and personal skills necessary to carry out incite full and ethical investigations
- Develop a life-long awareness of the potential and limitations of science and technology

## IB HL Chemistry students will be required to:

Take the IB HL Chemistry Exam in May of year two. This consists of three papers and is worth 80% of your final external grade.

Complete a group 4 project in year one. This is a collaborative activity where students from different group 4 subject areas work together on a scientific or technological topic, allowing for concepts and perceptions from across the disciplines to be shared in order to encourage an understanding of the relationships between scientific disciplines and the nature of the scientific method.

Complete an individual research investigation in year two. This investigation is an individual piece of work based on different data collected or measurements generated. This investigations will be started second semester of year 1. It is worth 20% of your final external grade.

Required Text and Materials:

Text: IB Chemistry, Higher Level 2<sup>nd</sup> edition by Brown and Ford

Materials:

Students will need to bring the following items to class every-day. If you are unable to purchase these supplies, please see me before or after class.

- 1 3 ring binder of any size you prefer. We will accumulate several over time. This binder is assessed on the day of each test for organization and notes.
- Lined college ruled paper
- Pen & pencils
- Scientific Calculator

## Classroom Policies:

### Class Rules:

- Be on time for class and come with all of your own materials. The bell starts the class, I dismiss the class.
- No electronic devices out or being used at any time. Cell phones may not be used during class.
- Follow all lab safety rules.
- No food or drink in the classroom or in the lab. Water is OK in a sealable container in the classroom.
- Do not talk while another student or the teacher is talking.
- Group and class participation is a requirement.

### Absentee/Late/Missing Work:

- Late work will not be accepted unless cleared with the teacher.
- For excused non-school related absences all exams and quizzes must be made up during the posted make up times before or after school. Homework must be made up within the same amount of days a student was absent. Labs must be made up during the lab make up times before or after school.
- For school related absences, students must turn in all assignments and make-up any missed tests or labs on the day they return to class.
- Students are responsible for getting notes/activities for any missed days.

### Tardy Policy:

The school wide tardy policy will be enforced. In addition, for every unexcused tardy you will lose citizenship and homework points for that day. If you come in late, you are expected to make a quiet entrance.

## Internal Grading Policies:

Grading is approximately 50% from tests, 25% from laboratory experiments, and the remainder from class participation, quizzes, and other assessments which vary throughout the course.

The scoring is not scaled, so calculation of your current grade is easy, and accessible through PowerSchool for both students and parents

### Contact Information:

Email:

[brielmannh@guilfordschools.org](mailto:brielmannh@guilfordschools.org)

Website:

[Chemistryacademy.org](http://Chemistryacademy.org)

# The three papers at the end of year 2

Paper 1: multiple choice – 1 hour (20% – 40 marks)

There are 40 questions and you are given 60 minutes to complete them. This works out to an average of 1 minute and 30 seconds per question. This is obviously simplistic as the questions assess different skills, some of which require very little time and some require working out.

The best approach is to read through the questions one at a time answering as you go. There is usually more than enough time to complete the paper and go back to check any questions that you had difficulty with.

Calculators are not allowed

Data booklets are provided

Paper 2: structured questions – 2 hours 15 minutes (36% – 90 marks)

This paper consists of two sections, section A and section B, with a relative weighting of 40 marks and 50 marks respectively.

Section A: Answer all questions

There are 40 marks given for this section making 4/9 of the total. The overall time available is 135 minutes. This equates to 60 minutes for section A. There are usually 5 questions making 12 minutes per question.

Section B: Answer two questions from the choices given.

There are 50 marks awarded for section B making 5/9 of the total. The overall time available is 135 minutes, equating to 75 minutes for section B, or 37 minutes 30 seconds per question. Calculators are allowed, data booklets provided

Paper 3: Options – 1 hour 15 minutes (24% – 45 marks)

Section A: one data-based question and several short-answer questions on experimental work.

Section B: short-answer and extended-response questions from one option

Calculators are allowed

Data booklets are provided



# year one

August/September 2019 (21/21)

Su	M	T	W	Th	F	Sa
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

1. intro to chemistry

2,3. data and measurement including spectroscopy

October 2019 (21/42)

Su	M	T	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

4. stoichiometry

November 2019 (17/59)

Su	M	T	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

5. periodic table

December 2019 (15/74)

Su	M	T	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

6. bonding

January 2020 (21/95)

Su	M	T	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

7. midterm exams

# IB chemistry 2019 -2020

February 2020 (18/113)

Su	M	T	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

8. the atom

9. the electron

March 2020 (21/134)

Su	M	T	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

10. chemical reactions

April 2020 (16/150)

Su	M	T	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

11. gases

12. group 4 projects

May 2020 (20/170)

Su	M	T	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

13. final exam

June 2020 (10/180)

Su	M	T	W	Th	F	Sa
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

# year two

August/September 2019 (21/21)

Su	M	T	W	Th	F	Sa
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

14. welcome to year 2 ib chemistry

15. research projects

16. review

17. energy

18. rates and equilibrium

19. acids and bases

Organic chemistry 1

midterm exams

October 2019 (21/42)

Su	M	T	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November 2019 (17/59)

Su	M	T	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December 2019 (15/74)

Su	M	T	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

January 2020 (21/95)

Su	M	T	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February 2020 (18/113)

Su	M	T	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Organic chemistry 2

March 2020 (21/134)

Su	M	T	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

medicinal chemistry option

April 2020 (16/150)

Su	M	T	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

review

May 2020 (20/170)

Su	M	T	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

IB papers may 22-23

June 2020 (10/180)

Su	M	T	W	Th	F	Sa
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Post exam activities

# First assignment

Choose a partner and a year one chapter for review.

Create an interesting demonstration or activity to introduce your topic

Practice presenting your topic using the prepared slides

Present your chapter in 1-2 class periods