**IB Chemistry SL Syllabus 2023-2024**

**Mr. James Privett**

**james.privett@sumterschools.net**

**Course Description**

IB Chemistry SL is an intensive, college level course that spans one year. In IB Chemistry SL we will meet for three lecture hours and two lab hours per week during your junior year. Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is called the central science since chemical principles underpin both the physical environment in which we live and all biological systems. Chemistry is also a prerequisite for many other courses in higher education such as medicine, biological science and environmental science.

**Prerequisites**

Biology I-H, Chemistry I-H, Physics I-H

**IB Program**

The IB Chemistry Standard Level course consists of the core material and an option. The sequence of topics shows the core material, the additional higher level material and the options that will be covered. The option studied is subject to change, but are generally option D (Medicine and Drugs) or E (Environmental Chemistry).

A detailed list of the IB Chemistry assessment statements will be provided. You should use this list to prepare your required index cards (see below).

The IB learner profile is included in this syllabus.

**External Assessment**

This is more commonly referred to as the IB exams. You will take the IB exams in the spring of your senior year after successful completion of the two year course. Your performance on the IB exams counts as 76% of your IB final assessment.

**Internal Assessment (IA)**

This is more commonly referred to as laboratory investigation. Throughout this course you will occasionally be required to turn in a lab report for formal internal assessment. These labs will be assessed according to IB standards and will be submitted to the IBO for review. Internal assessment counts as 24% of your final assessment.

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| --- | --- | --- | --- |
| Component | Overall Weighting (%) | Duration (hrs) | Format |
| IA | 24 | In class | IA handout |
| Paper 1 | 20 | 1 | x-choice (Core +AHL) |
| Paper 2 | 36 | 2.25 | DBQ and extended response (Core +AHL) |
| Paper 3 | 20 | 1.25 | Short answer and extended response (options) |

**Group 4 Project**

During your second year, you and your peers will analyze a topic or problem which can be investigated in each of the science disciplines. More details about this project will be given at a later date.

**Textbooks**

Chang, *Chemistry,* 9th edition. New York, N.Y.: McGraw-Hill Publishing, 2007.

Zumdahl and Zumdahl *Chemistry*, 5th edition*.*  Boston New York: Houghton Mifflin Company, 2003

Bylikin, Horner, Murphy, and Tarcy, *Chemistry*, 2014 Edition. Oxford University Press, 2014

Neuss, *IB Study Guides: Chemistry for the IB Diploma,* 2nd edition.Oxford University Press, 2007

**Materials Needed**

3-ring binder, loose-leaf paper, black ink pens, pencils, scientific calculator, 5 x 8 index cards, file box for index cards

**Notebooks**

Each student should have a 3-ring binder. Students are free to organize the notebook in any manner they wish. Assigned homework should be referenced with the page number so that it can be easily located.

**Index Cards**

This course will cover all assessment statements as outlined by the International Baccalaureate Program. Each objective will be attached or written on a 5 x 8 index card. Student notes that address the objective will be written on that card.

**Homework**

Homework is an extremely important part of this course. Assignments are chosen to provide practice and to check for understanding of newly introduced material. Homework will be assigned daily. Note: daily study and work on topic cards is essential.

**Quizzes**

Regular quizzes will serve as a preview for major tests. Pop quizzes may be given on reading assignments and/or cards assigned for homework.

**Major Tests**

Major tests may cover several chapters of the book and usually cover numerous assessment statements. Tests will be written in IB format with Paper 1 comprised of multiple choice questions and Paper 2 with free-response questions.

**Lab Reports**

Lab reports will be typed and must be turned in at the beginning of the class period in which they are due. Reports submitted up to one day late will be penalized one letter grade per day. Each student is responsible for completing and submitting a lab report on time. Reports that are internally assessed must be submitted in triplicate.

**Semester Exams**

A comprehensive exam that includes all content covered during the semester will be given during the time of exams. This exam will count as 20% of your grade for the semester.

**Make-up Policy**

In the event of absence, the make-up policy as stated in the SHS handbook will be enforced – missed work must be made up within two days for every day of class missed. Making up any missed work is the student’s responsibility. Arrangements should be made with your teacher on the day that you return to class. Make-up tests will be given at your teacher’s convenience. Failure to adhere to this policy will result in a zero on the assignment(s). Students missing class should access the class website using eChalk where classroom assignments are posted daily.

**Grading**

Class Grade: 50 % Tests, 25 % Quizzes, 25 % Homework

 Lab Grade: Total Points, with points given for participation in the lab and for the lab report.

**Course Expectations**

Students are expected to complete all daily assignments accurately, submit all assignments on time, study adequately for quizzes and major tests, participate in learning and lab groups, ask appropriate questions, bring all necessary materials to class, and give their best effort in all work.

**IB learner profile**

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

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.

**Topics**

 Safety and a review of selected topics from Chemistry

1. Stoichiometry
2. Atomic structure
3. Periodicity
4. Chemical bonding
5. Thermochemistry
6. Chemical Kinetics
7. Equilibrium
8. Acids and Bases
9. Oxidation and Reduction
10. Organic Chemistry
11. Measurement and analysis
12. Option

**By signing below, I am stating that I have read and understand the preceding syllabus and procedural handout for IB Chemistry HL. I will do my best to (or encourage the following student to) abide by the rules, follow all procedures, make up work after absences, complete assignments, and study for tests and quizzes.**

**Student Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_**

**Parent/Guardian Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_**