

Columbia High School Biology Syllabus

MYP Biology Year 4, Ms. Smith

Room: 145

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Course Description

MYP Biology is an International Baccalaureate course in the study of living things in our world. The MYP addresses holistically students' intellectual, social, emotional and physical well-being, provides students opportunities to develop the knowledge, attitudes and skills they need in order to manage complexity and take responsible action for the future. It ensures breadth and depth of understanding through study in eight subject groups, requires the study of at least two languages to support students in understanding their own cultures and those of others. Lastly, it empowers students to participate in service with the community, and helps to prepare students for further education, the workplace and a lifetime of learning.

*Our study will heavily depend on lab inquiry. Safety and behavior in the lab is of utmost importance and will be strictly monitored.

The aims of MYP sciences are to encourage and enable students to:

- Understand and appreciate science and its implications and consider science as a human endeavor with benefits and limitations
- Cultivate analytical, inquiring and flexible minds that pose questions, solve problems, and construct explanations and judge arguments
- Develop skills to design and perform investigations, evaluate evidence, and reach conclusions
- Build an awareness of the need to effectively collaborate and communicate, apply language skills and knowledge in a variety of real-life contexts, develop sensitivity towards the living and non-living environments, reflect on learning experiences, and make informed choices.

Required classroom supplies:

- 3 ring binder (at least 2 inches)
- 6 dividers for binder: bellringers, cornell notes/ handouts, study guides, labs, homework, benchmarks
- Paper, pencils and pens (blue or black)

Methods and Grading:

The MYP grades students based on the following 4 Assessment Criteria for its assignments. Each student will receive an MYP grade for each class at the end of each nine weeks in addition to the class grade.

In order to reach the aims of sciences, students should be able to:

Criterion A. Knowing and understanding (Maximum 8 points)

This criterion is assessed with tests or exams

- i. Explain scientific knowledge
- ii. Apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
- iii. Analyze and evaluate information to make scientifically supported judgments

Criterion B. Inquiring and designing (Maximum 8 points)

This criterion is assessed by designing and carrying out investigations

- i. Explain a problem or question to be tested by a scientific investigation
- ii. Formulate a testable hypothesis and explain it using scientific investigation
- iii. Explain how to manipulate the variables, and explain how data will be collected
- iv. Design scientific investigations

Criterion C. Processing and evaluating (Maximum 8 points)

This criterion is assessed by students collecting, processing, and interpreting data

- i. Present collected and transformed data
- ii. Interpret data and explain results using scientific reasoning
- iii. Evaluate the validity of a hypothesis based on the outcome of the scientific investigation
- iv. Evaluate the validity of the method
- v. Explain improvements or extensions to the method

Criterion D. Reflecting on the impacts of science (Maximum 8 points)

- i. Explain the ways in which science is applied and used to address a specific problem or issue
- ii. Discuss and evaluate the various implications of the use of science and its application in solving a specific problem or issue
- iii. Apply scientific language effectively
- iv. Document the work of others and sources of information used

The following percentages are used to give the final grade for each 9 weeks:

Tests, Projects, Writing Assessments	60%
Classwork (labs, major assignments, quizzes, in-class work)	30%
Homework and Bellringers	10%

Midterm and Final Exams are worth 10% of the course grade

In every year of MYP sciences, all students must independently complete a scientific investigation that is assessed against criterion B (inquiring and designing) and criterion C (processing and evaluating). We will address all strands of all four assessment criteria at least twice in each year of the MYP.

The MYP structures sustained inquiry in sciences by developing conceptual understanding in global contexts. Teachers and students develop a statement of inquiry and use inquiry questions to explore the subject. Through their inquiry, students develop specific interdisciplinary and disciplinary approaches to learning skills.

MYP Global Concepts

Identities and relationships	Scientific and technical innovation	Globalization and sustainability
Fairness and development	Personal and Cultural Expression	Orientation in time and space

MYP Key Concepts

Aesthetics	Change	Communication	Communities
Connections	Creativity	Culture	Development
Form	Global Interactions	Identity	Logic
Perspective	Relationships	Systems	Time, place and space

Related Biology Concepts

Balance	Environment	Transformation	Models
Consequences	Energy	Evidence	Movement
Form	Function	Interaction	Patterns

Outline of Course Topics:

All topics will be taught under MYP units. The pacing and order are set by Huntsville City Schools.

Unit 1: Introduction – “Who Cares?": Lab safety and design, scientific method, graphing, themes of biology

Unit 2: Chemistry – “Chem Shmem!": Atoms, elements bonding, characteristics of water, macromolecules

Unit 3: Cells – “What’s really going on?": Structure & function of the cell, homeostasis, photosynthesis, respiration, cell reproduction

Unit 4: Genetics – “I’m not my momma!": DNA, inheritance patterns, meiosis, replication, transcription, translation, technology

Unit 5: Evolution – “What came 1st: the chicken or the egg?": Darwin, natural selection, speciation

Unit 6: Classification – “These things are crazy!": Main criteria for viruses, fungi, protists, and plants

Unit 7: Ecology – “How can we help?”: population, dynamics, energy transfer

Unit 8: Plants – “They can’t be doing that much!”: plant evolution, structure, reproduction, and response

Unit 9: Animals – “So that’s how I work!”: evolution of invertebrates, vertebrates, and their main systems

Classroom Expectations

Listen and follow all instructions the first time they are given (Please see procedures sheet). Everyone is expected to be on time and prepared daily. Always treat everyone with respect and be polite at all times.

****Cheating and/ or plagiarism will result in a zero for the assignment, a call home, and possibly a loss of IB credit.**

Rules: 1) Be on time, on task and prepared to learn EVERYDAY 2) Electronics are for educational purposes only 3) Respect the teacher, the classroom and other students 4) Follow teacher directions the first time given

Consequences: 1) Warning 2) Move seat / Behavior Reflection 3) Phone call home 4) Student/ Parent/ Teacher conference 5) Office referral

Parent Contact Policy – If your grade drops to a 65% after the first two weeks of school (or at any point in the year), I will call your parent or guardian. I will also make parent contact for behavior issues.

Bathroom policy: It is expected that you will not leave my classroom to go to the bathroom. You are expected to handle your personal business between classes. You will sign in and out every time you leave the room for whatever reason. Teacher reserves the right to let a student go to the bathroom if the teacher deems it a genuine emergency. If a student continually has emergencies, a doctor’s note will be needed.

Cell phone policy: You are not allowed to have your cell phone out during class. Consequences will be given to students who have their cell phones out when not authorized to do so. Cell phone use is restricted to Eagle Hour only.

Food and drink: Food and drinks are not allowed. A WATER bottle is okay. If you have a water bottle, it needs to remain on the floor throughout class. Exceptions for food will be for school wide breakfast.

Binder: Every student will be required to keep a 3-ring binder for my class. The sections for the binder will be: bellringers; cornell notes/ handouts; study guides; labs; homework; and assessments.

Bellringers: These are short assignments to be started right when the bell rings. You will be given a short time to complete them. You will record your answers on your bellringer sheet, and myself or another student will come around to mark that you have completed your bellringer for the day. Bellringer sheets will be taken up on Fridays for credit. If you have completed all bellringers for the week, you’ll receive full credit.

****The rest of the policies and procedures for Ms. Smith’s class are on the separate Procedure sheet.**

Statement of Understanding

I have just read and am familiar with the course syllabus for Biology. I know what is expected of me and I expect to abide by the rules as specified in the Student Handbook, the course syllabus, and the class rules.

I also understand that Ms. Smith has the right to adjust any section of the course syllabus during the semester to meet the needs, abilities, and interests of the students. Parent/ Guardian may contact the teacher to schedule a conference at any time.

Student’s Name Printed: _____

Student’s Signature: _____ Date: _____

Parent’s Name Printed: _____

Parent’s Signature: _____ Date: _____

