



**Thornton High School**  
 9351 North Washington & Thornton, CO 80229  
 Office: (720) 972-4800 & Fax: (720) 972-4999  
<http://www.thorntonh.adams12.org>



<b>School Year</b>	2017-2018	<b>Teacher Name</b>	Kristina Burnham
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<b>Phone</b>			
<b>Email Address</b>	Kristina.Burnham@Adams12.org		

<b>Course Name</b>	<b>IB Biology I</b>	
<b>Course Description</b>	<p><i>IB Biology courses prepare students to take the International Baccalaureate Biology exams at either the Subsidiary or Higher level. In keeping with the general aim of IB Experimental Sciences courses, IB Biology promotes understanding of the facts, principles, and concepts underlying the biological field; critical analysis, evaluation, and generation of scientific information and hypotheses; improved ability to communicate scientific ideas; and an awareness of the impact of biology and scientific advances in biology upon both society and issues of ethical, philosophical, and political importance. Course content varies, but includes study of living organisms from the cellular level through functioning entities within the biosphere.</i></p> <p><i>Laboratory experimentation is an essential component of these courses.</i></p> <p>This class is a rigorous, two-year course that is designed to prepare students for the standard and higher level International Baccalaureate Biology diploma exams in May 2018. Strategies for teaching this course include individual readings, lectures, group and partner discussions, laboratory investigations, graphic organizers and both individual and group research projects. Topics will be taught with a focus on the major concepts of: change, energy; structures, patterns and systems.</p> <p><b>Required Materials:</b></p> <ul style="list-style-type: none"> <li>• Three-ring binder,</li> <li>• Bound graph paper composition notebook,</li> <li>• Spiral Notebook (for class notes)</li> <li>• paper,</li> <li>• pencils,</li> <li>• pens (Black ink only),</li> <li>• DP Biology Guide (supplied by teacher).</li> </ul> <p><b>*You must have all of these items by August 22, 2016.</b></p>	
	<b>Unit of Study</b>	<b>Content Standards</b>
Topic 1: Cell Biology	1.1 Introduction to cells 1.2 Ultrastructure of cells 1.3 Membrane structure 1.4 Membrane transport 1.5 The origin of cells 1.6 Cell Division	15 hours
Topic 2:	2.1 Molecules to metabolism	30 hours



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Molecular Biology Topic 7: Nucleic Acids	2.2 Water 2.3 Carbohydrates and Lipids 2.4 Proteins 2.5 Enzymes 2.6 Structure of DNA & RNA 2.7 DNA Replication, transcription, and translation 2.8 Cell respiration 2.9 Photosynthesis  7.1 DNA structure and replication 7.2 Transcription and gene expression 7.3 Translation	
Topic 3: Genetics	3.1 Genes 3.2 Chromosomes 3.3 Meiosis 3.4 Inheritance 3.5 Genetic modification and biotechnology	15 hours
Topic 10: Genetics and Evolution	10.1 Meiosis 10.2 Inheritance 10.3 Gene pools and speciation	8 hours
Topic 5: Evolution and Biodiversity	5.1 Evidence for evolution 5.2 Natural selection 5.3 Classification of biodiversity 5.4 Cladistics	12 hours
Topic 4: Ecology	4.1 Species, communities and ecosystems 4.2 Energy flow 4.3 Carbon cycling 4.4 Climate change	12 hours

Grading Scale		Grade Percentages/Weights	
A	90-100	Summative Assessments (Tests, Labs, Projects)	80%
			50% Test & Large Projects 30% summative quizzes & formal labs
B	80-89	Formative Assessments (quizzes, learning checks, etc)	20%
C	70-79		
D	60-69	*Weekly progress grades are posted at <a href="https://ic.adams12.org/campus/portal/adams12.isp">https://ic.adams12.org/campus/portal/adams12.isp</a>	
F	59-50		

**SCORING AND GRADING OF SUMMATIVE ASSESSMENTS (NEW! PLEASE READ)**

- If no attempt to take a summative assessment has been made, a “no evidence” (NE) grade will be recorded until the assessment is completed. NE shall be defined as not attempting the assessment or not being present for the assessment. **NE will be equal to 0%.**
- In order to receive a passing grade, a student must **attempt ALL summative assessment.**
- The presence of a NE grade for any summative assessment at the end of a grading period will result in a grade of F for the course, regardless of performance on other assessments.



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### SCORING AND GRADING OF FORMATIVE ASSESSMENTS

- Any work not turned in will be recorded as missing in the gradebook. In order to receive late credit of 50% the missing work **MUST** be turned in on/before the unit assessment.

### DISTRICT POLICY CHANGE 2017-2018

*All students enrolled in this course are required to take the corresponding IB exam in May. If you do not take the exam, your score in this course will be **unweighted** and will impact your GPA. IB exams are non-refundable and after they are ordered, you will be billed for the exam for this class regardless of whether or not you sit for the exam.*

#### **General Expectations**

- Grades are based upon the demonstration of proficiency associated with detailed content expectations. Formative grades in addition to summative unit assessments will be used to determine your grade.
- **Summative: 80%** Summative measures of achievement are taken when unit mastery is expected. (i.e., unit tests, culmination of a project, embedded assessments, etc.) One retake is available for ten days following the review of tests in class, with prior arrangement with the teacher on some form of additional learning, such as unit outlines, completion of practice work, etc. When a retake is done, the new score will be recorded (whether higher or lower). Missed tests (and retake if desired) must be made up in the two week window, which will not be extended beyond the original class time frame for retakes. At the teacher's discretion, when a test is missed, an alternative test will be substituted for the original test form. Retakes must be completed in a single sitting within the 10 day window.  
\*\*\*\*IB Labs, G4 and Practice IA are also summative; there is no retake for these assignments.
- **Formative: 20%** Formative assessments measure the development of skills and/or content embedded in the unit. Formative assessments are done frequently, after a student has practiced a skill or become familiar with content. Examples of formative assessments include but are not limited to exit tickets, problem solving, oral check for understanding, warm-ups, stages in a large project, etc. There are no retakes for formative work.
- Assessments will be graded based on teacher/district/state and IB rubrics.
- For group projects, students will receive both a grade for individual work and a group grade.
- Grades are based on achievement of Content Standards and IB Grade Level Expectations.

#### **Class Expectations**

Weekly class schedules, which include assignments, class discussion topics, IB Biology Guide references, book references, and work that is expected, are available on the teacher's website. Please reference these regularly. In most cases, the current power-point and practice sheets are available on the website as well.

**IB Biology Internal Assessment:** Internal assessment (IA) is an integral part of the course and is compulsory for both SL and HL candidates. It enables candidates to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations.

This is a **required** portion of the lab hours and is sent to IB as 20% of the final assessment at the end of senior year. In order to prepare the candidates for the individual IA in the senior year, they will complete the Practice IA junior year in partners. There will be **NO LATE WORK, NO RETAKE** for these assignments.



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**Group 4 (G4) Project:** The group 4 project is an interdisciplinary activity in which Biology, Chemistry and Physics Diploma Programme science students must participate. The intention is that students from the different group 4 subjects analyse a common topic or problem. The exercise should be a collaborative experience. This is a **required** portion of the lab hours which are submitted to IB. There will be **NO LATE WORK, NO RETAKE** for this assignment.

**Tests and Quizzes:** There will be frequent formative assessments, both announced and unannounced, to check student understanding of the class-work and reading assignments, and to gauge review progress. Due to the cumulative nature of this class, most or all quizzes and tests will include material from previous units.

**\*\*\*ONCE AN ASSESSMENT HAS BEEN HANDED OUT; LEAVING CLASS WILL NOT BE PERMITTED UNTIL ALL ASSESSMENTS HAVE BEEN COLLECTED.**

**Extra Credit Policy for this course:** There is no extra credit offered in this class.

**Practice work:** *Please plan on 20-30 minutes of individual practice time 4-5 days per week*, either on current work or in review. Most practice work should be attempted the first day it is discussed, and then, if necessary, you have an opportunity to ask questions and get help while the material is fresh. In general, this work will need to be done on your own time, not in class.

**Google Classroom and Quizzes:** Assignments will be posted in Google Classroom and may include; links to videos, worksheets, assignments from textbook and/or note catchers. Most of these assignments will be for introduction to material before it is discussed in class. Quizzes will be assigned to ensure that work outside of class is complete. Formative points will be given for completion of quiz, regardless of correctness. This hybrid classroom set-up allows for more time in class to collectively discuss and digest the content.

**Absences:** If material was assigned before an absence and due during the absence, it is due the day you return. If you know about an absence in advance, please work ahead to minimize the effect of the absence. If you are in the building for any portion of the school day, but will miss our class (meetings, appointments, athletics, etc) please arrange a time to take any missed tests or quizzes during your time in the building.

**Makeup work:** can be picked up from the teacher at an appropriate time. Missed notes should be gotten from classmates. You can determine what was done in class on the weekly schedules.

**Lab work:** is especially difficult to make up and must be made up within 2 days of the original date, before school or during open class periods (if the teacher in the room allows). Some labs cannot be made up later due to chemical deterioration or safety considerations. **\*All labs will be submitted in a bound graph paper composition notebook**

**Plagiarism is unacceptable.** Papers will be examined for copying, and may be run through detection programs. If copying is detected, the paper will receive a failing grade that cannot be made up, and the paper will be turned over to the administration for further action. Plagiarism includes copying from any source without giving credit, including fellow students. This primarily involves labs, tests and quizzes. NOTE - I understand that students often work together on practice work - and actually encourage this - but put the material in your own words and do your own problem setup. If you find useful information anywhere besides our text, give the reference.

**Cheating:** During tests and quizzes, there is NO talking or phone use for any reason. Talking with others may result in both students' papers being taken away and receiving a failing grade. Talk only to me during tests and quizzes if you have questions or needs - don't risk misunderstandings!

**Safety:** Safety rules for lab days will be discussed at length separately. There is a required safety contract, to be reviewed and signed by parents and students, which must be returned before students can participate in lab work. In addition, there is a safety quiz which students must pass at 90% before doing labs. There will be frequent demonstrations of techniques, and checks for use of proper techniques, as new or unfamiliar techniques are introduced.



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## Student Expectations

### Take Responsibility

- Students are **prompt** (on time) for their classes and appointments  
*It is expected that students will be in their seats and ready to work when the bell rings. Students may be assigned lunch detentions after 3 tardies. Being tardy to labs (or arriving unprepared) may mean having to make the lab up another day, along with a partial loss of points.*
- Students arrive **prepared** for class.  
*Bring the necessary materials to class every day. This includes a pen or pencil, paper, notebook with current unit, calculator, and IB syllabus/data book. On lab days, bring your lab book, a black pen, and dress properly. Phones, music players, cameras, etc. must be out of sight in your backpacks at all times. If they are out for ANY reason, they may be confiscated and then picked up from the attendance office at the end of the day. If this happens repeatedly, they will only be returned to parents*
- Students are **safety conscious** in the classroom at all times.  
*There is NO eating or drinking in the classroom except for screw-top water bottles. This is a safety issue – this room is used by multiple classes, and the tables may have chemicals on them. For the same reason, makeup, lotion, etc. are also to be kept in your backpack.*

### Honor Each Other

- Students are **polite** to each other and to adults  
*We will speak positively and respectfully to and about each other and support each other during class and group activities.*

### Strive for Success

- Students **produce** work that demonstrates their skills and abilities  
*Make a good attempt on all formative work, ask questions when you need to, pre-read materials before coming to class, get additional help when needed.*
- Students actively **participate** in classroom activities  
*During labs and class discussions, students will support their lab partners and classmates by being attentive, cooperative, reliable, and positive towards others efforts. During this class period, we are working on chemistry. If materials from other classes are out, they may be confiscated and not returned.*
- Students come to class with a **positive mental attitude**