



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

Course Name	IB Biology II
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School Year	2017-2018	Teacher Name	Grant Beavers
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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 https://ic.adams12.org/campus/portal/adams12.isp		
F	59-50			



<h2 style="margin: 0;">Course Description</h2>	<p> IB BIOLOGY II - 5060 Credit: 1 12 Level: 3 <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. Laboratory experimentation is an essential component of these courses.</i> </p> <p> IB Biology II is the second year of a rigorous, 2-year course. The required content covered is outlined in the green IB Biology Syllabus. Please use this as you study and as you review. This year, Biology paper 1/2 are in the afternoon of Monday, May 14th, 2018 and paper 3 is the morning of Tuesday, May 15th, 2018. Strategies for teaching this course include laboratory investigations, individual readings, graphic organizers, lecture, note-taking and summarizing, model construction, computer simulations, group and partner discussions, and both individual and group research projects. Review for "the exams" will be ongoing, but may include optional after-school study sessions. </p> <p> Each student will have, and be responsible for the textbook, <i>BIOLOGY CONCEPTS & CONNECTIONS</i> 7th edition (Lemur Book) as well as the online text from the weebly site. </p> <p> Note – Students <u>may</u> purchase a personal copy of the following <i>Biozone Student Workbook Senior Biology 2</i> ISBN # 978-1-877462-60-3. <i>HL Biology 2nd edition</i> ISBN 978-1-4479 5900-7 <i>Oxford IB Study Guides Biology 2014 edition</i> IBSN 978-0-19-839351-1 Students in the past have stated how much these resources have helped them to prepare for their exams. </p>
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Unit of Study	Grade Level Expectations/Next Generation Science Standards	Approximate Time	Targeted Date of Assessment
Topic 9: Plant Biology (AHL)	Transport in xylem 9.1, Transport in the phloem 9.2, Growth in plants 9.3, Reproduction in plants 9.4 (Chapters 17, 31, 32, 33 Lemur Book) <ul style="list-style-type: none"> ● Review Topics: 2.2 Water, 2.9 & 8.3 Photosynthesis, 1.4 membrane transport ● Class "design" lab = Practical 7: What affects transpiration in plants? The DV is the potometer. 	2.5 weeks	9/8/17
Topic 8: Metabolism, cell respiration and photosynthesis	Photosynthesis 8.3 (Chapters 6 & 7) <ul style="list-style-type: none"> ● Review topics: 2.5, 2.8 2.9 photosynthesis, 4.2 & 4.3, 8.1 & 8.2 metabolism and respiration. ● Structure function of chloroplast, light dependent and independent reactions. ● Lab demonstrating electron transfer in chloroplasts. ● Design IA: Investigate a factor that affects photosynthesis 	2 weeks	Tuesday 09/22/17



Topic 6.5& 6.6& D.5: Human Physiology	Neurons and synapsis 6.5, Hormones & homeostasis 6.6 (no reproduction yet, Hormones and Metabolism D.5/ (Chapter 25-26, 28) <ul style="list-style-type: none"> • Nervous system, Endocrine system, Negative and positive feedback • Homeostasis • Review topics: 1.4 membrane transport 	2.5 Weeks	Thursday 10/10/17
Topic 6.1 & D.2: Human Physiology	Digestion and absorption 6.1 & D.2 Digestion (chapter 21) <ul style="list-style-type: none"> • Functions of digestive structures • Review Topics- 2.1 Molecules to metabolism, 2.5 Enzymes, 1.2 cell structures, 6.5 Neurons and synapsis • Absorption and assimilation 	2.5 Weeks	Tuesday 10/25/17
Topic 6.2, D.3, D.4: Human Physiology	The Blood System 6.2 & D.3 Liver function & D.4 The Heart (Chapter 23& 25.7) <ul style="list-style-type: none"> • Review topics- 2.2 Water, 2.3 Carbs and lipids, 6.6 Hormones • Structure and function of the heart, Control of heart rate, Structure and function of arteries, capillaries and veins, Blood composition. Heart dissection view liver. • Investigate a factor affecting heart rate and interpret findings using heart rate monitors. • Structure function of liver? 	3.5 Weeks	Friday 11/18/17
Topic 6.4 & D.6	Gas Exchange 6.4 & D.6 Transport of gasses (Chapter 22) Pluck <ul style="list-style-type: none"> • Topics of review: 1.4 membrane transport, 1.6 cell division, 6.2 structure and function of respiratory system, ventilation vs. gas exchange • Test a factor that affects your ventilation rate Practical 6 	~2 weeks	Friday 12/09/17
Review for semester 1 exams Internal Assessment	Cumulative final review. <i>Note: Intro day for THE IA is Nov. 17,2016, RA ok 11/29/17 Research question meeting during lunch 12/05/16-12/07/16, materials for ordering 12/1/16, background due 12/13/15, data collection Jan.9, 10, 12,13, 2017. Data check 1/19/2017 Due 1/31/17</i>	2 days	12/14/17 or 12/15/17
Topic 11.3 Human Physiology (AHL)	The Kidney 11.3-Excretion (Chapter 25-26) <ul style="list-style-type: none"> • Excretory products, Kidney structure and ultrafiltration, Urine production • Osmoregulation • Includes time for IA meeting. 	2.5 Weeks	Friday 1/20/18
Topic 6.5 & 11.2(AHL): Human Health & Physiology and	Nerves, Muscles and Movement/6.5 & 11.2 (Chapter 28, 30) <ul style="list-style-type: none"> • Structure of nervous system, resting & action potential- Review from unit one • Synaptic transmission • Muscle contraction, muscles, joints and locomotion Muscle Fatigue Lab	3.5 weeks	Tuesday 2/14/18
Topic 6.3 & 11.1(AHL) Antibody production and vaccination	Defense Against infectious disease & Antibody production and vaccination Disease/6.3 & 11.1 (Chapter 10, 16, 24) <ul style="list-style-type: none"> • Types of defense, Antigens and antibody production, Antibiotics, HIV & AIDS, effects of Zika on Olympians? 	4 Weeks	Tuesday 3/14/18
Topic 6: Topic 11.4: Sexual reproduction	Human Reproduction/6.6 & 11.4 (chapter 27) <ul style="list-style-type: none"> • Structure of reproductive systems, Menstrual cycle, Spermatogenesis and oogenesis • Fertilization, pregnancy and childbirth 	3 Weeks	Tuesday 4/11/18
D.1	D.1 Human Nutrition	~2 Week	Friday 4/21/18
The Nature of Science	Each sub-topic has its own nature of science make sure to review these.	On going	
Review for Exam	Paper 1/2 are the afternoon on May 1st, 2017 and paper 3 is on Tuesday May 2nd, 2016. I will post a review schedule for after school session; we only have 1 week to review in class, at best	Only one week!	5/14/18 & 5/15/18

SCORING AND GRADING OF SUMMATIVE ASSESSMENTS

- 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.
- In order to receive a passing grade, a student must **attempt ALL summative assessments.**
- 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.

SCORING AND GRADING OF FORMATIVE ASSESSMENTS



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- 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.

Take Responsibility

- Students are **prompt** (on time) for their classes and appointments. Class will start when Mrs. Headrick shuts the door. If you arrive when the door is shut, knock once. Enter quietly, without disruption, look at objectives to determine what the class is doing, get out materials and do NOT make any disruptions to the learning environment.
- Students must wear ID.**
- Students arrive **prepared** for class with a backpack, books, note book, and a pencil, black or dark blue pen, dry erase marker.
- Electronic devices may be used to connect to the internet for relevant classroom activities. Electronic devices (music, phones etc.) for personal or social reasons during class **will not** be allowed in the classroom. **1st offense:** confiscate electronic and taken to the attendance office and you may pick it up at the end of the day. **2nd offense take:** confiscate electronic taken to the attendance office, parent/guardians contacted. Electronic will be given back to the parent/guardian at the end of the day. **3rd offense:** Parent/Guardians contacted about defiance, and further discipline will be administered. If you miss a day, you must get and do all homework on your own time. I have available time periods 3, 7th and lunch. I am in room 412. Labs, in particular, are difficult to make up and generally must be made up within two days of the original date. **Many of the labs contain living or once living material that decompose readily.**

Honor Each Other

- Students are **polite** to each other and to adults.
- Students comply with reasonable requests from adults. Failure to comply may result in a warning, parental contact, lunch detention, or a referral.

Strive for Success

- Students **produce** work that demonstrates their skills and abilities.
- Individual work needs to be your own. Students are expected to maintain **academic integrity** at all times. Students that are caught cheating, copying from other students, plagiarizing or using unauthorized sources will be handled according to the academic dishonesty policy at THS.
- Students actively **participate** in classroom activities
- Students come to class with a **positive mental attitude**. I encourage you to be engaged and motivated to complete **all** assignments.

Please come and see me if you need extra help, or just want to talk. I am in the science office, room 412 period 2 & lunch & 6th. I want each of you to have a successful year!
 Mr. Beavers 😊



Human Test Subject Consent Form IB Biology II

As a researcher, I will ensure the following conditions:

- I will not put myself in danger of physical or psychological harm.
- I will publish data gained from the investigation anonymously and with respect for privacy.

“I declare that I have permission and am healthy, able and willing to take part in the respiration and heart rate lab or any other lab activity involving myself as the test subject.”

_____ Date _____
 Name of student student signature



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“I give permission to my student and recognize that they are healthy, able and willing to take part in lab activities that involve them as test subjects”.

_____ Date _____

Parent/guardian signature