

**BIOLOGY FOR HOME SCHOOLERS**  
**ASBURY UNIVERSITY, HAMANN-RAY, ROOM 214**  
**SYLLABUS 2020-2021**

**Instructor:** Mrs. Ann Witherington, M.S.  
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**Objectives:**

1. to supplement biology programs being taught at home;
2. to develop reasoning and laboratory skills;
3. to examine selected cellular, organismal and ecological concepts.

**Attendance:**

1. Students are expected to attend all lab sessions.
2. No make-up labs will be available.

**Course Structure:**

1. **The students are expected to read the lab and related material in their own textbooks. Some questions can be answered before coming to lab.**
2. An introductory lecture will cover the basic concepts and safety issues.
3. The student will work with partners on the assigned experiment.
4. Each student is expected to complete and turn in the lab on lab day.
5. At the end of each lab, a quiz will be given. This ensures that, despite group work, each student becomes responsible for learning the material.
6. Course evaluations will be given at the end of the spring semester only.
7. Access to a computer and the Microsoft Office package that includes WORD and EXCEL is recommended.

**Grading:**

1. Students will be graded only on the labs attended.
2. Each lab, including the quiz, will be worth 50 points.
3. A transcript will be sent at the end of each semester listing the grades for each lab as a percentage and a letter.

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<b>Lab #</b>	<b>Date</b>	<b>Title</b>	<b>Notes</b>
1	<b>Aug 28</b>	An Introduction to Lab Techniques What tools do we use in a biology lab?	basic lab techniques; making graphs; using Excel
2	<b>Sept 11</b>	The Scientific Method in the Lab How are experiments designed?	original research; written report and graphs
3	<b>Sept 25</b>	Microscopic Study of Plant Cells What can we learn using microscopes?	use of microscopes, flex cameras
4	<b>Oct 9</b>	Understanding Cell Membranes Why is the cell membrane so important?	membrane structure; osmosis; dialysis; graphs
5	<b>Oct. 23</b>	Keys to the Animal Kingdom How do we categorize biodiversity?	dichotomous keys; animal kingdom survey
6	<b>Nov 6</b>	Frog Lifestyle and Anatomy How are frogs adapted to the environment?	ecology of live frogs; dissection of preserved frog
7	<b>Jan 15</b>	Dissection of the Fetal Pig I Skeletal, digestive & urogenital systems	advanced dissection
8	<b>Jan 29</b>	Dissection of the Fetal Pig II Circulatory, respiratory & nervous systems	advanced dissection
9	<b>Feb 12</b>	Microbiology Workshop How do we study microorganisms?	aseptic techniques; using a spectrophotometer; graphs
10	<b>Feb 26</b>	Higher Plants and Photosynthesis How do plants make food?	UV spectrophotometer; chromatography
11	<b>Mar 12</b>	Studying DNA What is the structure of DNA?	gel electrophoresis; building DNA models; graphs
12	<b>Mar 26</b>	Enzyme Function and Protein Synthesis What is the function of DNA?	effects of temperature; graphs protein synthesis models

**Home School Day for prospective students** is Friday, September 25, 2020.

**Fall Break** for Asbury University is Thursday-Friday, October 15-16, 2020.

**Kids College** (for K-8<sup>th</sup> grade) is Saturday, March 6, 2021.

**Spring Break** for Asbury University is March 15-19, 2021.

**Easter** is April 4, 2021.

No makeup labs are available; however, schedule changes are possible.

If weather conditions merit cancellation of classes on the Asbury campus, then labs will be cancelled. Otherwise parents/guardians must decide whether travel conditions are safe.