



# Principles of Biology Syllabus

*This is a working draft, content is subject to change*

**Course:** Advanced Placement/College Now Biology

**Instructor:** Ms Bender

**Office Hours:** Tuesday & Thursday 8-8:00 am... Lunch & Teacher Prep period by appointment only ☺

**Class location:** K-7      **Phone:** (541)-790-5100 (x5179)      **e-mail:** [bender@4j.lane.edu](mailto:bender@4j.lane.edu)

**Course Website:** <http://blogs.4j.lane.edu/bender/>

**Required Texts:**

Neil A Campbell & Jane B Reece, *Biology*, San Francisco: Pearson Benjamin Cummings, 2005

Andrew Allott, *IB Biology*, Oxford University Press, 2014

**Required Student Supplies:** spiral notebook (70 pg minimum), colored pencils, tape/glue stick



**Course Description:** This class is designed to prepare students for the AP Biology exam in the spring, as well as cover the coursework required to earn 3 terms of biology credit through the College Now program at Lane Community College (BI 101, 102, & 103). Most importantly, though, this class is designed to help students learn & practice necessary scientific skills (Scientific Practices #1-6) to prepare each student for the time management, perseverance, personal responsibility, as well as the extensive content knowledge necessary to get the most out of their future college education.

Course Goals	Process:
Provide content foundation for future life science courses at a 2 or 4 year educational institution	<b>8 Big Units:</b> Chemistry of Life, Cell Structure & Function, Cellular Energetics, Cell Communication & Cell Cycle, Heredity, Gene Expression & Regulation, Natural Selection & Ecology
Increase knowledge/comprehension of biological topics	<b>4 Big Ideas:</b> Big Idea #1 <i>Evolution:</i> The process of evolution drives the diversity & unity of life Big Idea #2 <i>Energetics:</i> Biological systems use energy & molecular building blocks to grow, reproduce & maintain dynamic homeostasis Big Idea #3 <i>Information Storage &amp; Transmission:</i> Living systems store, retrieve, & respond to information essential to life processes (ex: genetics) Big Idea #4 <i>Systems Interactions:</i> Biological systems interact, and these systems & their interactions exhibit complex properties (ex: ecology)
Improve critical thinking, reading, and writing skills	<b>6 Science Practices:</b> Science Practice #1 <i>Concept Explanation:</i> Explain biological concepts, processes, and models presented in written format Science Practice #2 <i>Visual Representation:</i> Analyze visual representation of biological concepts & processes Science Practice #3 <i>Questions &amp; Methods:</i> Determine scientific questions & methods (ex: identify & pose testable null & alternative hypotheses)
Improve laboratory skills	Science Practice #4 <i>Representing &amp; Describing:</i> Represent & describe data (ex. Construct data tables & graphs) Science Practice #5 <i>Statistical Tests &amp; Data Analysis:</i> Perform statistical tests & mathematical calculation to analyze & interpret data ...see "AP Biology Equations & Formulas" Science Practice #6 <i>Argumentation:</i> Develop & justify scientific arguments using evidence (ex: make, support & provide reasoning to justify a claim)

Prepare you to learn independently	<p><b>AP Classroom:</b>                      <b>ACCESS CODE:</b> _____</p> <p>Students use their College Board Student Account to log into My AP (myap.collegeboard.org) to access:    ...see <b>Bender's Website</b> ☺</p> <p>Unit Topics Science Practices for each Unit Personal Progress Checks Assessments (assigned by teacher) with Progress Tab &amp; Results Tab</p>
Improve laboratory skills	<p><b>Formal Laboratory Write-ups:</b></p> <p>Use word processing, graphing, and other programs (ex: excel) to make professional presentations of laboratory information    ...see <b>Bender's Website</b> ☺</p>
Improve technology skills	
Prepare to rise to a high standard of performance	<p><b>Formal Response:</b> short answer &amp; formal essay format on all test, class essay assignments, warm-up questions, free response questions, laboratory write-ups</p> <p><b>Unit Tests:</b> without the aid of notes, no test rewrites/retakes, no "extra credit"</p> <p><b>Interactive Notebook:</b> all of your notes &amp; biological drawings that include student generated questions &amp; note processing activities</p>

## Course Objectives:

### A. Content:

1. Become proficient in your understanding of the biological content listed in course description & course calendar on this syllabus
2. Relate biological knowledge in this course with current events in science and technology & familiarize yourself with ethical issues surrounding the study of biology
3. Participate in laboratories to increase knowledge of biological processes & content, as well as become proficient at accurate data collection & processing required to be able to develop a plausible & research supported conclusion (experience & utilize scientific methodology)
4. Complete multifaceted projects that include reading & analyzing scientific articles, analyzing validity of on-line research, and summarizing textbook information to increase your understanding
5. Prepare & take the AP Biology exam & complete internal assessments

### B. Process:

1. Posing Problems & Claims: learn how to pose good questions that can be answered with a rigorous process
2. Solving Problems: identify and utilize steps & skills scientists use to answer teacher & student generated questions while practicing writing, argumentation & technological tools
3. Explain biological processes: identify and utilize argumentation skills to persuade your cohort as to the validity of your data and data interpretation, as well as explain questions & issues posed in class

## Course Expectations:

- **Basic Rules of Respect:**
  1. Come to class **prepared** (Interactive Notebook, college rule paper, writing utensils, textbooks, colored pencils, glue stick, calculator, etc.), **on time**, and ready to **participate**
  2. Treat all humans & other animals with **respect**, and in a **positive** manner
  3. Treat all materials (textbooks, lab equipment, preserved specimens etc.) with **care**
- **Class Participation Policy:**
  1. Listen respectfully during lectures & class discussions so that all students may have their questions answered to increase their understanding
  2. Take notes for reference during future studying & analysis of the content in your Interactive Notebook
  3. Conduct group work activities with respect, openness, & time efficiency
- **Attendance Policy:** Attendance is imperative
  1. Absence = missing class
  2. Tardy:
    - a. Procedure:
      - 1) First 10 minutes tardy entered by teacher into Synergy
      - 2) After 10 minutes, **go to front office for a note** to enter class
    - b. Excused vs Unexcused Absences...see Student Handbook
      - 1) Make-up work:
        - a) Excused: **no Late Grade Slip within 2 class days**; Late Grade Slip required **after 2 days**

- b) Unexcused: **Late Grade Slip required**
- c) Prearranged Absences: due before or after with teacher discretion
- c. Consequences for tardy:
  - 1) Chronic tardiness may result in referral and a parent conference
  - a) Levels of discipline include, but are not limited to: community service, assisting the teacher, lunch detention, before and/or after school detention, written reflection and loss of privileges.

- **Grade Policy:**

1. Grade calculation process:

Based on accumulation of points you earn due to the quality & thoroughness of your coursework. These points are then weighted to calculate your overall grade:

Category	Percentage	Description
Labs/Assignments	30%	Laboratories, In-class work, Homework assignments, Projects & Papers
Tests/ Quizzes	50%	Planned unit tests, short quizzes & pop quizzes
Interactive Notebook	20%	A bound notebook of Cornell Notes, reflections, summaries & mini-labs, etc. that reinforce biological content & study skills... the best study tool possible ☺

2. Grades are posted on **Synergy** on a regular basis (approximately every 2-2½ weeks) during the grading period & individual print outs are available upon request

3. Final letter grades: assigned based on the following percentage breakdown:

**A+= 97-100%**      **A= 90-96.9**      **B+= 87-89.9%**      **B=80-86.9%**  
**C+= 77-79.9%**      **C= 70-76.9**      **D= 55-69.9%**      **F= below 55%**

4. Late assignments/laboratories:

**Late Grade Slip required** for assignment to be graded without loss of points. You will receive 4 slips per trimester. If no Late Grade Slip attached, you will be **docked 25%** of the overall points off of your graded score **for each day past the due date**

- **Assignments, Tests & Quizzes:**

1. Assignments & Labs are due at the beginning of the period into the turn in boxes unless otherwise indicated
2. Tests & quizzes are to be completed & turned in the same class period
3. Missed classes:

- a. **Look up** the Warm-up questions & activities using the "Warm-ups/Schedule" binder on top of the turn-in boxes in the classroom **OR** look up the information on **my website** using the "AP/CN Biology Warm-up/Schedule" (posted at the end of the day). Individual printed copies are available upon request
- b. **Copies of all handouts** are located in the file cabinet at the front of the room
- c. **Complete** Warm-up & scheduled activities

4. Late work: **\*Late Grade Slip Required\***

- a. When turning in an assignment **after it is due**, fill out Late Grade Slip & **staple** to the **completed assignment** then place into turn-in box... see Attendance Policy & Grade Policy above for more details

5. Calculators may be used, unless otherwise stated on a lab or activity

- **Food & Drink Policy:**

1. **NO FOOD OR DRINK** in class, **except** unsweetened water in a sealable container (i.e. personal or purchased H<sub>2</sub>O bottle)
2. No tobacco products in class (see Churchill High School Handbook for more details)
3. Gum: o.k. as long as I don't see or hear it... will be **revoked if gum found under desks**

- **Laboratory Policy:**

There will be numerous labs to complete over the course of biology. To keep the labs at a manageable level, it is imperative that you follow all directions for the lab very specifically. If you miss a lab, you will be either given data to process or be assigned an alternate activity.

- **Electronic Device Policy:**

1. No use of music devices (iPods, MP3, etc) during class time, **except** during "Tech On" times designated by instructor
2. No use of cell phones during class time. **Put away cell phone** as you enter the classroom.
3. Laptops, iPad, etc may be used in class, but **only on authorized class work**
4. **Consequences** of unauthorized use:
  - a. **first** offence: confiscation of device & device returned at the end of the class period
  - b. **second** offence: confiscation of device & device returned at the end of the school day
  - c. **third** offence: confiscation of device & referral to administration for return of device

- **Academic Integrity:**

It is expected that students will respect and be held to a high level of academic integrity. Academic Integrity is not something taken lightly at Churchill High School. Breaches of academic integrity include cheating, copying assignments, plagiarism (presenting another's work as your own), and facilitation of cheating/plagiarism/copying. We expect our students to hold themselves to a high level of integrity; students who choose not to do so will face consequences, including but not limited to, receiving a zero on the assignment/project/test, referral, and parent notification.

- **COW Computer/CALF iPad Agreements:**

1. I will **keep** food and drink **AWAY** from the computer
2. I will place the computer on a **flat, stable surface**
3. I will **report** any computer damage to the teacher **immediately**
4. I will **log myself off** the computer
5. I will **shut down** the computer by **using the Apple icon** (upper left corner)
6. I will place my computer in the **correct number slot & plug it in** to charge

- **AP Exam Overview:** ... see "How Student Learning Is Assessed on the AP Exam"

Section	Question Type	Number of Questions	Exam Weighting	Timing (min)
I	Multiple-Choice	60	50%	90
II	Free-Response Student Learning & Skills coverage: <i>Question 1:</i> Interpreting & Evaluating Experimental Results (8-10pts) <i>Question 2:</i> Interpreting & Evaluating Experimental Results with Graphing (8-10pts) <i>Question 3:</i> Scientific Investigation (4pts) <i>Question 4:</i> Conceptual Analysis (4pts) <i>Question 5:</i> Analyze Model or Visual Representation (4pts) <i>Question 6:</i> Analyze Data (4pts) ... see "Task Verbs Used in Free-Response Questions" (AKA Power Words)	6	50%	90

- **Churchill P.R.I.D.E.: Perseverance Respect Integrity Determination Excellence**

We show our **PERSEVERANCE** by staying positive, continuing to try, and learning from our mistakes

We demonstrate **RESPECT** by treating other the way we want to be treated and by caring for the environment and ourselves.

We display **INTEGRITY** when we are honest, set good examples that make others proud, do our own work, and always stand up for what is right.

We exhibit **DETERMINATION** when we attend class, work hard every day, are responsible, and do what needs to be done.

We illustrate **EXCELLENCE** when we do our personal best, always try to improve, and lead by example.