

# ASU Preparatory Academy

## Course Syllabus- AS/A Biology 2014-2015

### Ms. Campbell

Room: A-10 (lab)

Email: [Ellen.Campbell@asu.edu](mailto:Ellen.Campbell@asu.edu)

Phone: 602-523-5846

Website: [ecampbellasuprep.weebly.com](http://ecampbellasuprep.weebly.com)

After-School Hours: Monday, Wednesday, and Thursday from 4:06-5:30

### **Course Description:**

AS/A Level Biology is an advanced Cambridge course that allows students to gain in-depth subject knowledge, practice handling information and solving problems, and develop their experimental skills through investigations. It will build skills and knowledge that are useful for all students, whether or not they go on to pursue a career in science. Most importantly, it will allow students to practice critical thinking skills and gain knowledge of the living world.

### **Required Materials:**

Required: Materials to bring with you to class daily

- Science notebook
- Binder with tabs
- Pencils

Suggested Supplies:

- Ruler
- Eraser
- Graph paper
- Agenda/planner
- Calculator

Additional Resources (accessible for download through my Weebly):

- *Learner's Guide for AS and A Level Biology*
- *Cambridge Syllabus*
- *Learning objectives for each unit*

The course will use the *Cambridge International AS and A Level Biology Coursebook*, Third Edition, by Mary Jones, et al. While students will not have their own books, I am happy to provide photocopies of any chapters upon request.

### **Class Expectations:**

Students are expected to demonstrate the ASU Prep Way of “Work Hard, Be Kind, Be Smart” in the classroom. This, in addition to school-wide rules outlined in the Handbook, apply during the school day and before and after school. Additional expectations specific to my classroom are outlined below.

### **Entering the Classroom**

- Please remove and put away headphones and cell phones *before* entering the classroom.
- Enter quietly *before* class time begins and follow procedures described by Ms. Campbell. More than one unexcused tardy per week will result in a lunch detention.
- All homework should be submitted to the designated basket within the first five minutes of class.

### **Lab Procedures**

- Please read and sign both the “*Lab Safety Guidelines*” and “*Safe Microscope Use Contract*” for specifics regarding lab safety and behavior.

### **Technology Use**

- Students should only use the laptop with the number assigned to them. Any computer problems should be recorded on the clipboard.
- Laptops should be closed to be carried and should be carried with two hands.
- When finished with the laptop, be sure to sign-out of any internet accounts, return it to the appropriate laptop slot, and plug it in to charge.

- Any abuse of technology will result in disciplinary action. This includes, but is not limited to: removing keyboard keys, tampering with computer settings, using another student's internet account(s), using the computer for non-academic purposes such as social networking or gaming without teacher approval, or removing the laptop from the classroom.

### **Bathroom Usage**

- Students are allotted **3** bathroom passes per quarter for my class. Only one student may be in the bathroom at a time and must take the bathroom pass with them. Students must sign-out and sign back in on the designated computer.

### **Lab Seating**

- For safety, all chairs should be fully lowered and should stay in their designated areas (within 1 foot of the table). Be careful not to stand on the footrest, and please notify Ms. Campbell of any chairs missing wheels.

### **Discipline Procedures**

The following consequence hierarchy will be implemented if students should choose to not follow class expectations.

1. Verbal warning
2. Seat change
3. Lunch detention or written reflection\*
4. Call home and conference with teacher \*
5. Referral and removal from class

\*The specific consequence at step 3 or 4 will be chosen by teacher. The teacher also holds the right to skip steps, especially for larger offenses.

### **Homework**

Students should plan to devote daily time to this course outside of school hours. Sometimes, specific assignments will be given and will be graded for completion. When there is not a specific assignment, students are expected to spend time reviewing notes and studying the course content. Students are encouraged to use my Weebly site regularly. It will be updated by the end of each day with any homework, PowerPoints, and classwork handouts. There will also be many optional resources to assist students with studying.

### **Cambridge Curriculum:**

This Biology course is an AS/A level Cambridge course that is intended to follow IGSCE science. Here is an overview from the Cambridge syllabus:

Cambridge International AS and A Level Biology is accepted by universities and employers as proof of knowledge and understanding of biology. Successful candidates gain lifelong skills, including:

- confidence in a technological world, with an informed interest in scientific matters
- an understanding of the usefulness (and limitations) of scientific method and its application in other subjects and in everyday life
- an understanding of how scientific theories and methods have developed, and continue to develop, as a result of groups and individuals working together
- an understanding that the study and practice of biology are affected and limited by social, economic, technological, ethical, and cultural factors
- an awareness that the application of biological science in everyday life may be both helpful and harmful to the individual, the community, and the environment
- knowledge that biological science overcomes national boundaries
- the ability to communicate effectively using universal scientific conventions
- an awareness of the importance of IT
- a concern for accuracy and precision
- an understanding of the importance of safe practice
- improved awareness of the importance of objectivity, integrity, inquiry, initiative, and inventiveness
- an interest in, and care for, the local and global environment and an understanding of the need for conservation

- an excellent foundation for studies beyond Cambridge International A Level in biological sciences, in continuing or higher education, and for professional courses.

\*The official Cambridge syllabus may be accessed from my Weebly.

### AS Level Exam

At the end of the year, students will have the option of taking the AS Biology Cambridge exam. Due to exam seating limitations, some students may have the option of taking the exam in the Fall of 2015. The AS exam will consist of 3 parts:

- Paper 1- Multiple Choice: students will answer 40 multiple-choice questions
- Paper 2- Structured Questions: students will answer all of the short answer questions
- Paper 3- Advanced Practical Skills: students will demonstrate their lab skills and ability to handle both familiar and unfamiliar biological material. A portion will require the use of a microscope.

### A Level Exam

In order to take the A-Level exam, students must first complete the AS-Level exam. The A-Level exam tests on separate content that builds off skills learned in the AS curriculum. The Cambridge A level has two additional parts following the AS exam:

- Paper 4- Structured Questions 2: this paper will consist of short answer questions and one longer, free-response question on advanced material and applications of biology
- Paper 5- Planning, Analysis, and Evaluation: students will show lab skills through two or more questions that may be outside the subject content. This paper will require an understanding of statistical tests.

### Grading System:

**Please view the handout, “AS/A Biology Grading Scheme” for details of the standards on which you will be assessed.** Your grade will be based on mastery of these standards from Cambridge AS Biology. The grade scale will follow school policies as reflected in the table below:

Grade	Description	Grade Points	Percent
A*	Mastery with Distinction	5	97-100
A	Mastery of Standards	4	90-96
B	Meets Standards	3	80-89
C	Achieves Some Standards	2	70-79
D	In Progress/Approaches the Standards	1	60-69
F	Falls Far Below	0	0-59

You may not earn lower than 50%. This a) demonstrates that you need further instruction and practice on this standard, and b) allows you a better opportunity to stay engaged in the class and recover your grade.

### Effort Grade

The Effort Grade will be a separate grade at the end of each quarter that accounts for and assesses the issues of:

- ✓ behavior (respect for self, others, and education)
- ✓ participation (prepared with materials/supplies, and engaged)
- ✓ and effort (complete homework on time, take notes, and study)

An Effort Grade of...	Indicates that the student...
A	Exceeds expectations and exemplifies the ASU prep way.
B	Meets all but one aspect, in which there is room for improvement.
C	Meets most expectations inconsistently, with room for improvement.
D	Does not meet expectations, but makes some positive attempts.
F	Unacceptable behavior, participation, and effort.

## **Attendance:**

Please see the Student/Parent Handbook for school specific rules on attendance. Due to the fast pace of the course, it is extremely important that students are present for class AND actively engaged at all times. In the event that a student is absent, they are expected to get any class notes from a peer and check the Weebly for any assignments. All assignments must still be completed unless there is an extenuating circumstance that I excuse you for. See the note below about making up lab work.

## **Make-Up Policy:**

In preparation for college, it is the student's responsibility to collect and make-up any missed work due to absences, including absences for sports. Students should refer to my Weebly for missed work, including notes, and, when possible, ask classmates to help them catch-up. Student must schedule a time outside of regular class time to make-up missed exams and quizzes *prior* to the teacher passing them back to the class. After this time, the student may complete the retake version of the assessment (see below).

If you do not complete an assignment or test, you will receive an Incomplete until the assessment is given. **You will have until the end of the content unit (the time of the unit exam) to turn in missing work or make up missed assignments and/or quizzes.** If you have significant incompletes in a unit, you will be given an alternate assignment to complete outside of class.

Please note that students must complete any pre-lab homework before participating in a lab. This is important because pre-labs set a framework for learning that takes place during the lab activity.

## **Lab Work**

Make-ups: Every lab develops new skills and introduces new knowledge and must be completed by all students. Labs that are missed or not completed during regular class hours must be done before the end of the unit. I will be in the lab every Thursday (unless noted otherwise) after school until 5:30pm to permit lab makeups. However, students must sign-up on the designated clipboard so that I can obtain the necessary supplies. For safety reasons, there may not be more than 28 students completing lab work at any given time, so spots will be filled on a first-come, first-serve basis.

Late lab work: Lab work will compose a significant portion of your grade and will need to be finished on your own if not finished in class. **Lab work must be submitted within a week of the original due date.**

## **Quiz and Exam Retakes**

Retakes for all assessments, excluding Lab Practical Exams, will be available to students. These will be offered outside of class time (refer to Teacher Hours) for **two weeks following the original assessment date**. Students may improve their grade up to 96% (A\* are only available on the original assessment), and a retake grade that is lower than the original grade will not be counted.

To prepare students for quizzes and exams, Ms. Campbell will assign practice problems or "End-of-Chapter Questions" (EOCQs) as homework. These must be completed before retaking a quiz or exam.

## **Academic Integrity:**

All assignments, unless specified otherwise, are expected to be a student's independent work. If it is not your own idea or experimental results (in the case of a lab report), it must be cited, regardless of whether the words are changed. The exception would be class notes, which are "common knowledge," unless a direct quotation is used. While many lab experiments will be conducted as groups, students are expected to complete lab reports independently, unless both students' names are on the paper. When in doubt about these guidelines, please discuss it with Ms. Campbell.

Violations of Academic Integrity, including plagiarism and cheating, will result in discipline according to the ASU Preparatory Academy Academic Integrity Policy.

**Course Breakdown:** The units will follow the tentative\*\* sequence below. The letters before each unit refer to the Cambridge Syllabus Section.

<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
A. Cells and the Microscope <i>*Lab Practical Exam 1</i>	D. Membrane Transport	F. Genetic Control	K. Plant Transport/ Ecology
B. Biological Molecules <i>*Lab Practical Exam 2</i>	C. Enzymes <i>*Lab Practical Exam 3</i>	G. Mammalian Heart and Blood Transport <i>*Lab Practical Exam 4</i>	<b><i>Final Exam: Early May</i></b>
D. Cell Membranes	E. Cell Division & DNA/RNA <b><i>Final Exam: December 3/4</i></b>	H. Respiratory System	I. Infectious Diseases J. Immunity

**\*\*Disclaimer:** Any changes to the information contained in this syllabus will be announced with fair warning and provided in written form.

## **APPENDIX 1: AS/A Biology Grading Scheme-**

Your academic grade will consist of:

- Biweekly quizzes
- Unit Exams (about 2 per quarter) & Summary Sheets
- Lab work and lab reports

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- Final exams at the end of quarters 2, 3 and 4
- Homework assigned over each school break, research projects, written papers, class presentations,

Your grade will be based on mastery of standards in Cambridge AS/A Biology. There are 3 overall assessment categories, as shown below:

### **A: Knowledge with Understanding**

Students should be able to demonstrate knowledge and understanding of:

1. scientific phenomena, facts, laws, definitions, concepts, and theories;
2. scientific vocabulary, terminology, and conventions (including symbols, quantities, and units);
3. scientific instruments and apparatus used in biology, including techniques of operation and aspects of safety;
4. scientific quantities and their determination;
5. scientific and technological applications, with their social, economic, and environmental implications.

Questions testing these objectives will often begin with one of the following words: *define, state, name, describe, explain* (using your knowledge and understanding), or *outline*

### **B: Handling Information and Solving Problems**

Students should be able to handle information and solve problems, using oral, written, symbolic, graphical, and numerical forms of presentation. In particular, to:

1. locate, select, organize, and present information from a variety of sources;
2. translate information from one form to another;
3. manipulate numerical and other data;
4. use information to identify patterns, report trends, and draw conclusions;
5. give reasoned explanations for phenomena, patterns, and relationships;
6. make predictions and hypotheses;
7. apply knowledge, including principles, to new situations;
8. demonstrate an awareness of the limitations of biological theories and models;
9. solve problems.

Questions testing these objectives will often begin with one of the following words: *discuss, predict, suggest, calculate, explain* (give reasoned explanations and explain the processes of using information and solving problems) or *determine*

### **C: Experimental Skills and Investigations**

Students should be able to:

1. follow a detailed set or sequence of instructions;
2. use techniques, apparatus, measuring devices, and materials safely and effectively;
3. make and record observations, measurements, and estimates with appropriate regard to precision, accuracy, and units;
4. interpret, assess, and report on observations and experimental data;
5. assess information, and make predictions and hypotheses;
6. design, plan, and carry out experiments and investigations, and identify any problems;
7. choose appropriate techniques, apparatus, measuring devices, and materials;
8. assess methods and techniques, and suggest possible improvements.

Typical assignments: *Lab Practical Exams, Lab work including recorded observations and drawings, Formal and informal lab reports*

Thursday, unless notified otherwise, I will host a "Free-lab Thursday" for students who need to makeup any missing lab work or need to practice lab skills.

#### **When can I go to Ms. Campbell for extra help?**

- During Free-Lab Thursday
- Monday, Tuesday, Wednesday, or Friday during lunch
- Tuesday and Friday mornings before school
- Thursday after school until 5:30

**\*\*ALWAYS let me know ahead of time if you plan to come in for extra help so I can try to clear my schedule and be in my room. If none of the above times work for you, let me know and we can try to work something out.\*\***

**Course Syllabus- AS/A Biology 2014-2015**

**Confirmation Page**

Please detach this page from the syllabus, complete and sign-it, and return this page to Ms. Campbell by **Friday, August 1.**

**Student Name:** \_\_\_\_\_

**Class Section:** \_\_\_\_\_

**STUDENT PORTION:**

Please initial by each statement below:

- \_\_\_\_\_ I have received a copy of the syllabus and have provided it to my parents/guardians
- \_\_\_\_\_ I have the "Materials Required," and have labeled them with my name. I will bring them to class with me each day.
- \_\_\_\_\_ I have read and understand the "Class Expectations" and agree to follow them at all times
- \_\_\_\_\_ I understand that school rules, including uniform, apply at all times, including before and after school
- \_\_\_\_\_ I agree to follow the expectations regarding the rolling lab chairs
- \_\_\_\_\_ I understand the "Discipline Procedures" and recognize that larger offenses may result in greater disciplinary action
- \_\_\_\_\_ I will plan to devote time to homework and studying for the class each day
- \_\_\_\_\_ I understand the "Make-Up Policies" and recognize that I am accountable for making up any missed assignments
- \_\_\_\_\_ I understand that I should refer to Weebly for any missed work, lost handouts, etc.
- \_\_\_\_\_ I have read the "Academic Integrity" statement and will not submit any work that is not my own

I have read the syllabus and agree to follow class expectations. I understand that these are additions to, rather than in lieu of, the guidelines outlined in the ASU Preparatory Academy handbook.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

**PARENT/GUARDIAN PORTION (English):**

Por favor, refiera a la página al otro lado para llenarlo en español.

**Name of Parent/Guardian:** \_\_\_\_\_

**Relationship to Student:**  Mother  Father  Grandparent  Aunt/Uncle  Other: \_\_\_\_\_

**Primary Phone Number:** \_\_\_\_\_ **Type:**  Home  Work  Cell  Other

**Alternate Phone Number:** \_\_\_\_\_ **Type:**  Home  Work  Cell  Other

**Email:** \_\_\_\_\_

**Preferred Contact Method:**  Phone number(s) above  Email  Other: \_\_\_\_\_

I have received a copy of and have read the syllabus. I am aware of class expectations and policies.

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

**PORCIÓN DE LOS PADRES/TUTORES (ESPAÑOL):**

Favor de llenar este formulario por completo y firmar en la sección indicada. Favor de entregar el formulario completo en la escuela por su estudiante.

**Nombre del padre/tutor legal:** \_\_\_\_\_

**Parentesco al alumno:**  Madre  Padre  Abuelo/a  Tío /a  Otro: \_\_\_\_\_

**Número de teléfono:** \_\_\_\_\_

**Tipo de numero:**  Hogar  Celular  Trabajo  Otro

**Correo electrónico (E-MAIL):** \_\_\_\_\_

**Indique el método de contacto preferido:**  Teléfono  Email  Otro: \_\_\_\_\_

Hago constar que recibí este “Syllabus” y animaré a mi hijo(a) que siga las reglas de la escuela y de la aula.

\_\_\_\_\_  
Firma del padre o tutor

\_\_\_\_\_  
Fecha