

## **BIOL 172 General Biology II**

CRN 61014 \* 03 Credits

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<b>OFFICE HOURS:</b>	TuTh 4:30-5:30 PM; Online Sundays 7:00-8:00 PM
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<b>EFFECTIVE DATE:</b>	Summer 2014
<b>COURSE WEBSITE:</b>	<a href="http://krupp.wcc.hawaii.edu/BIOL172/Biol172Summer2014.htm">http://krupp.wcc.hawaii.edu/BIOL172/Biol172Summer2014.htm</a>
<b>LAULIMA URL:</b>	<a href="https://laulima.hawaii.edu/portal">https://laulima.hawaii.edu/portal</a>

### **WINDWARD COMMUNITY COLLEGE MISSION STATEMENT**

*Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.*

### **CATALOG DESCRIPTION**

Continuation of BIOL 171. Topics include: Origin of eukaryotic organisms, their general characteristics, life cycles, systematics and evolution; Anatomy, physiology and classification of higher plants; Anatomy, physiology, behavior and classification of animals; and Basic ecological principles. (3 hrs. lect.)

### **PREREQUISITE**

- Credit in BIOL 171

### **RECOMMENDED PREPARATION**

- Credit or concurrent registration in CHEM 162
- Concurrent registration in BIOL 172L

### **STUDENT LEARNING OUTCOMES**

*By the end of this class, the student should be able to*

- Contrast the general characteristics, life cycles, evolution and systematics of eukaryotic organisms.
- Describe the detailed biology of higher plants.
- Describe the detailed biology of animals.
- Explain how interacting environmental factors (physical, chemical and biological) determine the distribution and abundance of living things.

## COURSE LECTURE TOPICS

- The Diversity of Life: Protists
- The Diversity of Life: Fungi
- The Diversity of Life: Primitive Terrestrial Plants
- The Diversity of Life: Seed Plants
- Animal Body Plans
- The Diversity of Life: Invertebrate Animals
- The Diversity of Life: Craniates
- Plant Cell Types
- Plant Structure and Growth
- Plant Transport Processes
- Plant Nutrition
- Plant Reproduction: Development and Growth
- Plant Responses to Internal and External Signals
- Introduction to Animal Architecture and Function
- Thermoregulation
- Feeding, Digestion, and Nutrition in Animals
- Animal Circulation
- Gas Exchange in Animals
- Osmoregulation and Excretion
- The Nervous System: Transmission of Nerve Impulses
- The Nervous System: Anatomy and Function
- The Sense Organs
- Muscular Systems
- The Endocrine System
- Body Defenses and Immunity
- Animal Reproduction
- Animal Development
- Animal Behavior
- Ecological Principles: Abiotic Factors and Biomes
- Ecological Principles: Population Ecology
- Ecological Principles: Community Ecology
- Ecological Principles: Ecosystems
- Human Impacts on the Environment

## MODE OF INSTRUCTION

*The previously described objectives will be achieved through the aid of the following learning activities:*

- Lecture presentations and demonstrations (these may be televised or viewed as downloadable podcasts from the course Laulima site).
- Internet-assisted activities and resources (e.g., Laulima and course website).
- Readings from textbook and instructor's lecture outlines and study guides (lecture outlines and study guides downloadable as pdf files from the course Laulima site).

## COURSE TASKS, ASSESSMENT AND GRADING

**QUIZZES.** The student will take a minimum of eight quizzes (20 points each; 160 points total) administered through the Internet (Laulima) during specified time periods (but not during class sessions). These quizzes will address the detailed content and major concepts presented in the lectures, lecture outlines, text readings, and study guide activities. If the student takes more than ten quizzes, (there may be twelve quizzes in all) only the best eight quiz scores will be used in calculating the student's total points. Since these quizzes may be taken using home computers connected to the Internet, students may refer to instructional resources (text, study guide, lecture notes, etc.) while taking the quizzes. However, the quizzes will be timed, the student having only 30 minutes to complete each quiz. In general, a quiz will be available for about a week (but the start and duration of the availability period may vary from quiz to quiz). Students should expect to take at least one quiz per week. But sometimes more than one quiz will be posted at the same time. Some quizzes may be posted during exam availability periods. *No make-up quizzes for missed quizzes will be administered for ANY REASON, including illness or family emergency (the student will receive no score for missed quizzes). Quizzes missed or receiving zeros or low scores because of computer and/or Internet problems may not be made up either. The student should also note that quizzes are only reviewable from the course Laulima site if the student has taken them. The student should not expect to be able to review quizzes that the student has not accessed from the course Laulima site during the quiz availability period.*

**Table I**  
**Biology 172 Summer 2014 Quiz Schedule**

<b>QUIZ</b>	<b>TELEVISED SESSIONS COVERED</b>	<b>AVAILABILITY DATES</b>
One*	1 - 3	10:00 am June 4 – 11:00 pm June 8
Two**	3 – 5	10:00 am June 9 – 11:00 pm June 15
Three***	6 - 8	10:00 am June 16 – 11:00 pm June 22
Four****	9 - 11	10:00 am June 23 – 11:00 pm June 24
Five*****	11 – 13	10:00 am June 25 – 11:00 pm June 30
Six	14 - 15	10:00 am July 1 – 11:00 pm July 7
Seven	16 - 18	10:00 am July 8 – 11:00 pm July 14
Eight <sup>†</sup>	19 - 21	10:00 am July 15 – 11:00 pm July 21
Nine <sup>††</sup>	21 - 24	10:00 am July 22 – 11:00 pm July 27
Ten <sup>†††</sup>	24 - 26	10:00 am July 28 – 11:00 pm July 29
Eleven <sup>††††</sup>	27 - 28	10:00 am July 30 – 11:00 pm Aug 7
Twelve <sup>†††††</sup>	29 - 31	10:00 am Aug 6 – 11:00 pm Aug 7

\* Quiz One includes information on “The Diversity of Life: Protists” and “The Diversity of Life: Fungi”, but excludes information on “The Diversity of Life: Primitive Terrestrial Plants” from televised session 3.

\*\* Quiz Two begins with information on “The Diversity of Life: Primitive Terrestrial Plants” from session 3.

\*\*\* Quiz Three also includes information from the “Supplemental Podcast Session 01: Animal Body Plans.”

\*\*\*\* Quiz Four includes information from “The Diversity of Life: Craniates” Parts I-III. It does not include information on “Plant Structure and Growth” presented in the second half of televised session 11. Please note that Quiz Four has a very short availability period.

\*\*\*\*\* Quiz Five also includes information from “Supplemental Podcast Session 02: Plant Cell Types.”

<sup>†</sup> Quiz Eight includes information on “Circulation” through “Osmoregulation and Excretion” in session 21.

<sup>††</sup> Quiz Nine includes information on “The Nervous System” and “The Sense Organs.”

<sup>†††</sup> Quiz Ten begins with “Muscular Systems” and ends with “Body Defenses and Immunity.” Please note the short availability period for Quiz Ten.

<sup>†††††</sup> Quizzes Eleven and Twelve overlap each other. Be sure to review the supplemental podcast: “Supplemental Podcast 03: Female Hormonal Cycles Plus Human Development & Birth” for Quiz Eleven. Quiz Twelve has a very short availability period. The student may want to review the corresponding session podcasts before the televised sessions are aired on television. We need to complete these quizzes before the Final Exam availability period begins.

**EXAMINATIONS.** The student will take two non-cumulative midterm examinations (100 points each) and a non-cumulative final examination (100 points) to demonstrate understanding of information presented primarily during lectures. The first midterm examination will cover

information presented during the first third of the course (see Table II). The second midterm examination will cover information presented during the second third of the course. The final examination will emphasize the final third of the course (100 points). The **closed-book, proctored** examinations will be administered through the Internet using Laulima at your campus' Testing Center. **NO RETESTS** will be given. A student missing an exam because of a documented illness or emergency may be allowed to take a make-up exam. In such a circumstance, the student should make every reasonable attempt to contact the instructor before the exam is administered to the class (or as soon as possible). While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

**Table II**  
**Biology 172 Summer 2014 Examination Schedule**

<b>EXAMINATION</b>	<b>TELEVISED SESSIONS COVERED</b>	<b>AVAILABILITY DATES*</b>
First Midterm**	1 - 11	June 30 – July 3
Second Midterm***	11 - 21	July 21 - 25
Final Exam****	21 - 31	August 8 – 13

\* The student needs to be aware of the operating hours of the campus testing center for these availability dates.

\*\* First Midterm Exam covers sessions 1-11 up through and including “The Mammals” but not “Plant Growth and Structure.”

\*\*\* Second Midterm Exam covers information beginning with “Plant Growth and Structure” (session 11) up through and including “Osmoregulation and Excretion” (but does not include “The Nervous System.”

\*\*\*\* Final Exam includes content beginning with “The Nervous System” and ending with “Ecological Principles.”

***The assignment of points will be according to the following protocol:***

Quizzes	160	points
Midterm Examinations	200	points
<u>Final Examination</u>	<u>100</u>	<u>points</u>
<b>TOTAL</b>	<b>460</b>	<b>points</b>

***Letter grades will be assigned as follows:***

<b>A</b>	90% or above in total points.
<b>B</b>	80-89.9% of total points.
<b>C</b>	65-79.9% of total points.
<b>D</b>	55-64.9% of total points.
<b>F</b>	Below 55% of total points or informal or incomplete official withdrawal from course.

<b>I</b>	Incomplete; given at the <b>INSTRUCTOR'S OPTION</b> when student is unable to complete a small part of the course because of circumstances beyond his or her control. It is the <b>STUDENT'S</b> responsibility to make up incomplete work. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identified by the instructor (see catalog).
<b>CR</b>	65% or above in total points; the student must indicate the intent to take the course as <b>CR/NC</b> in writing by the end of the 10th week of classes (see catalog).
<b>NC</b>	Below 65% of total points; this grade only available under the <b>CR/NC</b> option (see above and see catalog).
<b>N</b>	<b>NOT GIVEN BY THIS INSTRUCTOR EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES</b> (e.g., documented serious illness or emergency that prevents the student from officially withdrawing from the course); never used as an alternative for an "F" grade.
<b>W</b>	Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).

Waiver of minimum requirements for specific grades may be given only in unique situations at the instructor's discretion.

Students involved in academic dishonesty will receive an "F" grade for the course. Academic dishonesty is defined in WCC's college catalog.

## LEARNING RESOURCES

### *Required Textbook*

Reece, J.B., L.A. Urry, M.L. Cain, S.A. Wasserman, P.V. Minorsky, and R.B. Jackson. 2014. Campbell Biology, Tenth Edition. Benjamin Cummings. San Francisco.

### *Additional Resources*

Lecture outlines, PowerPoint slides (as pdf files), Podcasts of the lectures and other resources will be made available on the course Laulima site.

## STUDENT RESPONSIBILITIES

The student is expected to attend and actively participate in all course lectures and activities, and complete all quizzes and examinations on time.

The student is expected to be prepared in advance before the class sessions. Being prepared includes the following: having read text materials (e.g., textbook readings, and lecture outlines) assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session.

Any changes in the course schedule, such as examination dates, deadlines, etc., will be

announced ahead of time in class or on the course Laulima site. It is the student's responsibility to be informed of these changes. Students should visit the course Laulima site at least twice per week.

It is the student's responsibility to be informed about deadlines critical to making registration changes (e.g., last day of erase period and last day for making an official withdrawal).

The student should understand that **"INTRODUCTORY" DOES NOT MEAN "EASY"**. Students should expect a level of difficulty comparable to other 100-level science classes intended for majors in the discipline. When difficult concepts and detailed information are presented, it is the student's responsibility to take the appropriate steps to learn and understand these concepts and information.

Science courses at WCC generally require two to three hours of independent private study time for each hour in class. However, because of the nature of the material presented in BIOL 172, more study time may be required (depends upon the student's science/biology background). It is the student's responsibility to allocate the appropriate time needed for study in an environment conducive to quality study. The student must budget time efficiently and be realistic about all personal and professional commitments that consume time.

## **HOW TO SUCCEED IN THIS CLASS**

Understanding biological science involves understanding many difficult concepts and vocabulary, not just knowing facts. The student should know that the details to these concepts are important. In addition, the student will be introduced to hundreds of new words. In some cases, words that are familiar in a context other than biology will be introduced in the context of biology. The student will need to understand and use these terms in a biological science context.

While the student will have lecture outlines (downloadable from the course Laulima site), the student will not succeed in this class without taking careful lecture notes and reading the corresponding material in the textbook. The lecture outlines are not to be used in place of the student's own note taking. As soon as possible (best if done on the same day), the student should copy over these lecture notes filling in gaps and missing information by referring to the lecture outlines and textbook. The student should carefully review these rewritten lecture notes as often as possible. In addition to reviewing these notes before an exam, it would be useful for the student to try to rewrite these notes from memory.

In addition to copying over lecture notes, study activities should include drawing labeled diagrams or graphs that illustrate important biological phenomena (e.g., the internal structure of the cell, the stages of cell division, or the anatomy of the heart). These diagrams need not be works of art, but should clearly illustrate significant information. Before an exam, it would be useful to redraw these labeled diagrams and graphs from memory.

The student should make flashcards for each new vocabulary word presented (refer to lecture outlines for a lists of required terms). On one side of the card, write the word. On the other side, write the appropriate biological science definition for the word. The student should use these card for self-testing as often as possible. The student should also practice using the words to explain biological concepts.

The student should do all of the recommended study guide activities and review all of the Internet resource materials provided.

The textbook and the lecture outlines include useful study questions. The student should write out answers to all of these questions as though they were required assignments. Students could exchange these answers and provide constructive feedback to each other.

The student should read the textbook materials corresponding to a particular lecture before and after that lecture.

Students are recommended to establish study groups and study together. The students in these groups may test each other's knowledge and understanding of the information. They may also take turns teaching each other.

The student should ask the instructor to explain the things that the student does not understand.

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### **DISABILITIES ACCOMMODATION STATEMENT**

*If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, [lemke@hawaii.edu](mailto:lemke@hawaii.edu), or you may stop by Hale 'Akoakoa 213 for more information.*