

BIOL 100 Human Biology

CRN 64185 * 03 Credits

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| OFFICE HOURS: | MW 11:00 AM – Noon (online) T 3:30 – 4:30 PM (online) |
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| EFFECTIVE DATE: | Fall 2018 |

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

'O keia ka wā kūpono e ho'onui ai ka 'ike me ka ho'omaopopo i kō Hawai'i mau ho'oilina waiwai. Aia nō ho'i ma ke Kulanui Kaiāulu o ke Ko'olau nā papahana hou o nā 'ike 'akeakamai a me nā hana no'eau. Me ke kuleana ko'iko'i e ho'ohiki ke Kulanui e kāko'o a e ho'okumu i ala e hiki kē kōkua i ka ho'onui 'ike a nā kānaka maoli. Na mākou nō e ho'olako, kāko'o a paipai i nā Ko'olau a kō O'ahu a'e me nā hana no'eau ākea, ka ho'ona'auao 'oihana a me ka ho'onui 'ike ma ke kaiāulu — hō'a'ano a e ho'oulu i nā haumāna i ka po'okela.

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

Introduction to structure and functions of cells, tissues, organs, and systems of the human body. Topics related to physical fitness, nutrition, health, and disease. Not intended for science majors. 3 credit hours.

STUDENT LEARNING OUTCOMES

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

- Use scientific reasoning to answer a question about phenomena in our natural universe or to determine the validity of a scientific claim.
- Distinguish between living things and inanimate objects.
- Relate cell structure and function to the architecture and functioning of the human body.
- Use information about the form (anatomy) and function (physiology) of the human body to make positive decisions about human health.
- Describe the interrelationships between humans and their environments.

COURSE CONTENT

Course Content and Topics

- The philosophy and characteristics of science and the scientific method.
- The difference between hypotheses, theories and laws in science.
- The characteristics of living things and how living things differ from inanimate objects.
- The major integrating themes of biology: cell theory, inheritance, and evolution.
- The chemical architecture of living things and the functions of the major groups of biological molecules.
- The parts, their structure and functions, of animal cells, how animal cells differ from plant cells and prokaryotic cells, cell metabolism including anabolic and catabolic processes, and cell division processes (mitosis and meiosis).
- Human genetics, especially the relationship between genetics and human health.
- Human nutritional requirements and the role of nutrition and fitness in human health.
- The hierarchical architecture of the human body: molecules, cells, tissues, organs, organ systems, and whole organism.
- The anatomy and physiology of the systems that make up the human body, including skeletal, integumentary, muscular, circulatory, digestive, respiratory, excretory, nervous, endocrine, immune, and reproductive systems.
- Human evolution, its mechanisms and history.
- The interrelationships between humans and their environments (behavior and ecology).

MODE OF INSTRUCTION

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

- Pre-recorded lecture sessions viewable as podcasts from the course Laulima site – see information on course website).
- 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).
- Online discussions on human biology related topics
- Quizzes and examinations assessing the students' understanding of course content.

COURSE TASKS, ASSESSMENT AND GRADING

PARTICIPATION IN ONLINE DISCUSSIONS. The student will actively engage in five online discussions during the semester (10 points for each discussion; 50 points total). These discussions, which are meant to entice interest in Human Biology, will involve posting thoughtful comments, including responses to comments, to a discussion topic posted on the Class Discussion page on the class Laulima site. *Each discussion topic will be open for limited periods of time (typically 2 weeks) and students will only be able to comment/respond during these open periods.*

QUIZZES. Approximately 14 to 15 quizzes will be administered throughout the semester. Of these, student will take a minimum of ten quizzes (15 points each; 150 points total) administered

through the Internet (Laulima) during specified time periods. 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, only the best ten 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, each quiz will be timed, the student having only 20 minutes to complete it. ***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.***

EXAMINATIONS. The student will take one midterm examination (100 points) and a non-cumulative final examination (100 points) to demonstrate understanding of information presented primarily during lectures. Exams will be delivered through the Internet via Laulima at the student's respective campus learning resource/testing center. These proctored exams will be **closed-book** exams and students will not be allowed to refer to texts, notes, nor other materials while taking the exam. **NO RETESTS** will be given. The student must take the exam during the scheduled time period. A student missing an exam because of an illness or legitimate emergency may take a make-up exam as soon as possible after the student returns from the illness and as determined by the instructor. In such a circumstance, the student should make every reasonable attempt to contact the instructor before the exam period is over (or as soon as possible). In addition, the student will be expected to provide formal documentation of the occurrence of the illness or emergency. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

METHOD OF GRADING

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

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|--------------------------|------------|---------------|
| Online Discussion Forum | 50 | points |
| Quizzes | 150 | points |
| Midterm Examination | 100 | points |
| <u>Final Examination</u> | <u>100</u> | <u>points</u> |
| TOTAL | 400 | points |

Letter grades will be assigned as follows:

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| A | 90% or above in total points. |
| B | 80-89.9% of total points. |
| C | 65-79.9% of total points. |
| D | 55-64.9% of total points. |

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| F | Below 55% of total points or informal or incomplete official withdrawal from course. |
| I | Incomplete; given at the INSTRUCTOR'S OPTION when student is unable to complete a small part of the course because of circumstances beyond his or her control. It is the STUDENT'S 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). |
| CR | 65% or above in total points; the student must indicate the intent to take the course as CR/NC in writing by the end of the 10th week of classes (see catalog). |
| NC | Below 65% of total points; this grade only available under the CR/NC option (see above and see catalog). |
| N | NOT GIVEN BY THIS INSTRUCTOR EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES (e.g., documented serious illness or emergency that prevents the student from officially withdrawing from the course); not used as an alternative for an "F" grade. |
| W | 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

[Johnson, M.D. 2017. Human Biology: Concepts and Current Issues. Eighth Edition. Pearson Education. Boston, MA](#)

Lecture outlines, PowerPoint slides, Podcasts and other resources will be made available at the course Laulima site.

SCHEDULE OF LECTURE TOPICS

Please click on the following link to access the schedule of lecture topics:

<http://krupp.wcc.hawaii.edu/BIOL100/lectsched/BIOL100F18schedule.htm>

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 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". The student should not assume that the lack of science prerequisites for this class ensures a low level of difficulty for this course. While the instructor assumes that students enrolled in BIOL 100 have little or no science background, the student should expect a level of difficulty comparable to other 100-level science classes. 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 generally require two to three hours of independent private study time for each hour in class (depends upon the student's science 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 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.

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, or you may stop by Hale 'Akoakoa 213 for more information.

TITLE IX STATEMENT

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: https://windward.hawaii.edu/Title_IX/.

Windward Community College - University of Hawai'i

Biology 100 Human Biology Tentative Schedule

CRN 64185 - Fall 2018

Schedule of Topics

| Week | Podcast Session | Topic* | 8th Ed Text Pages* | 7th Ed Text Pages |
|----------------|------------------------|--|--------------------------------|-------------------------------|
| Aug 20 - 24 | 1 | Course Introduction | | |
| | 2 & 2A | Science as a Way of Knowing | 2-4, 10-18 | 2-5, 11-19 |
| Aug 27 - 31 | 3 | The Characteristics of Living Things | 4-9, 50, 191, 514 | 4-11, 51, 191, 517 |
| | 4 | The Chemistry of Life: Atoms and Molecules | 21-33 | 22-35 |
| Sep 03 - 07 | 5 | The Chemistry of Life: Biological Molecules | 33-44 | 35-45 |
| | 6 | Charles Darwin's Evolutionary Paradigm | 503-512, 514 | 508-514, 517 |
| Sep 10 - 14 | 7 | The History of Life on Earth | 7 504-518 | 8, 506-521 |
| | 8 | The Cell as the Fundamental Unit of Life: Cell Structure and Function | 6 47-58 191, 402 | 8, 48-54, 61-67, 191, 405 |
| Sep 17 - 21 | 9 | The Cell as the Fundamental Unit of Life: Membrane Transport Processes | 44, 58-66 | 45, 54-61 |
| | 10 | Energy and Life: Cell Metabolism | 41-42 44 66-74 | 41-43 45 67-75 |
| Sep 24 - 28 | 11 | Continue Cell Metabolism Architecture of the Human Body | 66-74 77-96 102 145 | 67-75 78-97 103 146 |
| | 12 | Continue Human Body Architecture Reproduction of Cells | 77-96 42-43 399-404 407-409 | 79-97 402-407 411-413 |
| Oct 01 - 05 | 13 | Continue Reproduction of Cells Gene Expression | 399-404 407-409 43 402-407 | 402-407 411-413 44 406-411 |
| | 14 | Digestion and Nutrition | 34-38 40 67; 281 309 322-348 | 35-39 41 69 283 311 24-351 |

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|--------------------|----|--|--------------------------------|--------------------------------|
| Oct 08 - 12 | 15 | Continue Digestion and Nutrition The Respiratory System | 322-348 219-239 | 324-351 220-240 |
| | 16 | The Urinary System | 351-370 | 354-373 |
| Oct 15 - 19 | | Midterm Examination (covers sessions 02 - 15) | | |
| Oct 22 - 26 | 17 | The Nervous System | 243-270 | 244-272 |
| | 18 | Continue The Nervous System The Sense Organs | 243-270 92-93 274-295 | 244-272 92-93 276-297 |
| Oct 29 - Nov 02 | 19 | Continue The Sense Organs The Muscular System | 92-93 274-295 86-87 119-168 | 92-93 276-297 86-87 120-138 |
| | 20 | The Skeletal System | 84 99-116 311-314 | 85 100-117 313-315 |
| Nov 05 - 09 | 21 | The Circulatory System | 139-183 193 202 226 | 140-185 194 203 227 |
| | 22 | Body Defenses and Immunity | 50 92 150-153 187-216 | 51 92 152-155 188-217 |
| Nov 12- 16 | 23 | The Endocrine System | 252 298-319 333 | 253 300-321 334 |
| | 24 | Human Reproduction and Development Part I | 373-396 479-500 | 376-399 482- 503 |
| Nov 19 - 23 | 25 | Human Repro and Develop Part II Meiosis | 373-396 479-500 409-411 | 376-399 482- 503 413-415 |
| | 26 | Mendelian Genetics | 441-449 | 444-452 |
| Nov 26 - 30 | 27 | Beyond Mendel | 150-153 450-460 | 152-155 452- 463 |
| | 28 | Ecological Principles Part I | 521-538 | 524-539 |
| Dec 03 - 07 | 29 | Ecological Principles Part II | 521-538 547-548 | 524-539 547- 548 |
| | 30 | Human Ecology | 536-537; 541-555 | |
| Dec 10 - 14 | | Final Examination (covers sessions 16 - 30) | | |

Exam Periods

| EXAM | DATES | SESSIONS COVERED |
|--------------|------------------|-------------------------|
| Midterm Exam | October 15 - 19 | 02 - 15 |
| Final Exam | December 10 - 14 | 16 - 30 |

Page last updated 19 August 2018 by [Dave Krupp](#)

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