UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

INTRODUCTION TO BIOLOGY (1) 171

3 Credits (CRN 63010)
WWW and Virtual Course
C19 and DB

INSTRUCTOR:	Teena Michael PhD
OFFICE:	Hale Palanakila 142
OFFICE HOURS	In-person meeting by appointment! Contact me by email Zoom individual and group meetings and discussionL Topic: Biology 171 Time: This is a recurring meeting Meet anytime Join Zoom Meeting https://hawaii.zoom.us/j/93584835038 Meeting ID: 935 8483 5038 Passcode: Membranes
TELEPHONE:	(808) 236-9114
EMAIL (best contact):	teena@hawaii.edu
EFFECTIVE DATE:	Fall 2022

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 the Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learningin a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

First semester of introductory biology for all life science majors. Topics include: Overview of the science of biology; Cell structure, chemistry, growth, and reproduction; Classical, chromosomal and molecular genetics; Evolution, phylogeny and systematics; and Biology and diversity of viruses and bacteria. (3 hrs. lect.)

RECOMMENDED PREPARATION

- High School chemistry or CHEM 151
- Concurrent enrollment in BIOL 171L
- Concurrent enrollment in CHEM 161

Activities Required at Scheduled Times Other than Class Times

Read the presentations and text/OER resource chapter before 'class'.

1) Do the worksheets that are written in the style of the exams.
2) Complete assigned central questions, homework and quizzes
3) Note—Material NOT covered in class will not be on exams. You will need to access resources however to remember and apply and understand so succeed and 'master' the important biology for our course.
4) An outside of class zoom discussion will support learning and be guided by questions and problems for those that can attend and/or questions sent to me (teena@hawaii.edu).

STUDENT LEARNING OUTCOMES

As a result of taking this course, students can expect to attain the following outcomes:

- Develop and evaluate a scientific hypothesis.
- Describe cell structure and function.
- Describe how genetic characteristics are passed from generation to generation and how they are manifested into the characteristics of the whole organism.
- Explain how the process of biological evolution influenced the history of life on our planet.
- Classify living things into a hierarchical system of groups based upon morphology, genetics, and phylogeny.
- Describe the characteristics, systematics, and biology of viruses and bacteria.

COURSE FORMAT

This course will be taught as an asynchronous online class, meaning that lectures and all other materials may be read and viewed according to your schedule. Each week on Monday, new content will be available in Laulima. Most homework assignments are due on Sunday in Assignments at 11:55 pm, unless otherwise noted.

In the study of biology we will emphasize the unity of all life as well as the complexity.

Please regard this course content as you would a new language. We will use and build on the words/concepts from our first week, throughout our course. Please regard each term and concept as important for the next topic. If you feel lost..most likely ist is that you do not know the vocabulary! So keep this in mind and learn the vocabulary...learn our language and this will allow us to converse—for you to hear 'me' and me 'you'.

Students with a background in chemistry and/or mathematics and/or biolog may have an easier time understanding some of the concepts introduced in this course! BUT! We can all succeed and make sure you ask for any assistance from the beginning that will support your success regardless of your starting level of knowledge.

We 'end' our course with Round Table discussions in which we will celebrate both learning and speaking and listening...This course supports success in other biology courses and fields and hopefully supports your future scientific inquiries and contributions.

Our course will require between 4-9 hours to gain *recall* (of information including vocabulary and concepts), *analytical/critical thinking* and *understanding*. Those are my goals for you and this is how I structure our presentations and assignments/quizzes and exams.

LEARNING RESOURCES and LEARNING ACTIVITIES

Class presentations and resources are the primary sources of information/concepts and stories that support our developing RECALL, ANALYTICAL THINKING, and UNDERSTANDING. The following are excellent resources options that support those objectives—for gaining mastery of the biology that we study.

1) TEXTBOOK: Ideally I would like for us all to have the following excellent text which is electronic and you would *purchase a subscription to the etext for $9.99/month* with a 4 month minimum subscription (so ~$40 for our semester). I will work closely with this text and it is *the same text* that is used for Bio172. Follow the procedure below and note that you will receive a 10% discount from the publisher

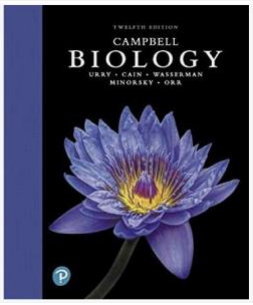
1) Purchase access to their eText through Pearson+ at this link:

Pearson+: https://www.pearson.com/en-us/pearsonplus.html
Along with the Promotional code: **learn10** - gives the student a 10% discount.
The price is $9.99/month for one 4-month term (before the discount)

- ISBN for our class which is

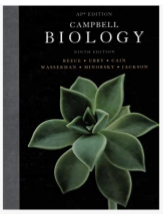
  Urry: 9780135988046

- Please note: you can read your eTexts on you mobile device or laptop, online and offline.



I want you to be prepared by setting up strong foundations…and for you to succeed.

2) IF for any reason you prefer to have a hard copy--I encourage you to go to the internet and browse OLD editions or Campbell. Note—the price for our current etext appears to be the best deal but here is an option I found on the internet:



Campbell Biology AP Ninth Edition (Biology, 9th Edit
by Inc. Pearson Education | Jun 30, 2011
★★★★½ 113
Hardcover
$18.46 to rent
$95.00 to buy
Get it Fri, Aug 26 - Thu, Sep 1
$8.99 shipping
Only 4 left in stock - order soon.
More Buying Choices
$6.00 (97 used & new offers)

3) AND/OR! Access this ***Open Educational Resource (OER)** Textbook: Openstax Biology 2e

(second edition, 2018). Senior Contributing Authors: Mary Ann Clark, Jung Choi, Matthew Douglas. Available for free online at: https://openstax.org

Additional Resources:

- Lecture slides as PDFs, podcasts, readings and videos as presentations and other video resources will be posted in Laulima Resources
- You will need to take notes on all presentations and readings—review your notes within 24 hours of interacting with the resource to retain information that will both support your performance on quizzes/exams and ...the next topic!
- *Central Questions* will be posted for each chapter that I encourage you to read ahead of watching presentations. Clear answers for these questions support your learning as will be evidenced on exams! Examples of exam questions will be given throughout our semester for your practice...your learn...and to support you gaining confidence and to do well on exams.
- *Work together on the above!*
- *DO NOT work together on quizzes and exams!*
- Exams are primarily multiple choice but drawings will also be required and details will be given ahead of time!

- *ROUND TABLE Guidelines (last 2 weeks of our semester)*
    - Round Tables originated by students in a previous Microbiology course, that attended zoom discussions that centered on what it was like to be...1) working in a child's oncology ward...or 2) to be a person that was or was concerned about disparities in medical care, or 3) to be a person that say experienced cultural aspects of disease...
        - TO INITIATE a Round Table—simply let me know your title and if possible—gather 2-8 (ish) colleagues that also want to earn (30) points and prepare to both talk and listen—to discuss. Students that initiate and present in Zoom discussion format earn 30 points.
        - Students that attend (as will I) earn points as well. All Round Tables will be recorded and posted for all of us to profit from in the final week of our semester.
- Join our zoom discussion group whenever possible

- Take time to apply what we are learning to your lives and to understanding the news in general

- Utilize WCC learning/student support services including TRIO for tutoring and Ka Piko.

COURSE TASKS, ASSESSMENT AND GRADING

Note! The diversity of our assignments supports the successes of diverse learners.
Your final grade is based on:

1)	*Forums (2)*	*20*
2)	*Weekly Assignments as Homework and Quizzes*	*150*
3)	*3 exams at 100 points each*	*300*
4)	*Round Table Discussion by Zoom (TBA in final 2 weeks)*	*30*
5)	*Final exam*	*100*
	Total	*600*

Students will receive a letter grade based on the following scale:
A = 90-100% B = 80-89% C = 70-79% D = 60-69%

I (incomplete) grade is given at the instructor's option when a student has failed to complete asmall part of a course because of circumstances beyond student's control. It is the **student's responsibility** to contact the instructor to make up the incomplete work with a minimum level (or better) of achievement. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identifiedby the instructor.

* Zoom sessions will be offered to discuss *the material and *news as relates to our class. We will schedule ONE session per week based on the highest number that would and could attend. A survey will

be sent out to determine this. Sessions that directly enhance the content of the lectures will be recorded and posted for review and/or for those that cannot attend.

Our Learning Community
This course requires regular interaction with the Laulima website, videos, interactive simulations, the instructor, and classmates. Especially in this online format, students must take responsibility for their own learning and which includes checking the Laulima website regularly in order to be successful in this course.

Students will be respectful in all forms of communication with their classmates and the instructor (discussion forums, emails, peer-interaction activities for example). Bullying, harassment, and any similar behaviors that disrupt the learning environment for others will result in warnings, grade deductions, and reports to applicable administrators/authorities, depending on the nature and severity of the situation and the pattern of behavior. As a community we can enhance the learning of others as well as ourselves.

All work submitted by the student must be the student's own work. Submitting the words, answers, or work done by another person and claiming credit is academic dishonesty. In this class, academic dishonesty (cheating, plagiarism, copy/pasting from websites) will have the following consequences: students will receive a failing grade for the plagiarized assignment. All cases of academic dishonesty will be reported to the Vice Chancellor of Student Affairs.

* The last day to Withdraw (W) from class is 10/31/22.

DISABILITIES ACCOMMODATIONS

If you have a physical, sensory, health, cognitive, or mental health disability that could limit yourability to fully participate in this class, you are encouraged to contact the Accessibility Counselorto discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, royinouy@hawaii.edu, or you may stop by Hale Kākoʻo 106 for more information.

SEX DISCRIMINATION AND GENDER-BASED VIOLENCE RESOURCES (TITLE IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all formsof sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, aswell as receive information and support, please contact one of the following:

UH Confidential Advocate
Phone: (808) 348-0663 Email: Advocate@hawaii.edu

Karla K. Silva-Park, Title IX
CoordinatorPhone: (808) 235-7468

Email: karlas@hawaii.edu Office:

Hale Kākoʻo 128

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how yourcase will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need. For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

Nondiscrimination and Affirmative Action

The University of Hawaii is committed to a policy of non-discrimination on the basis of race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, or veteran status in all of its programs, policies, procedures, or practices. This policy covers admission and access to, participation, treatment and employment in university program and activities.

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, orfor any other issues, please contact the Academic Affairs Office:

- Location: Alakaʻi 121. Phone: (808) 235-742

FALL 2022 SCHEDULE

WEEK 1		**Campbell Chapters**
August 22-28	Introduction to the Course & THEMES	**1**
	Chemistry of Life	**2**
WEEK 2		
August 29-Sept 4	Chemistry of Life	**3**
	Water and Life	**3**
	If I set out to prove something I am no real scientist-- I have to learn to follow where the facts lead me-- I have to learn to whip my prejudices…" – Spallanzani	
	Carbon and the Molecular Diversity of Life	**4**
WEEK 3		
Sept (5 Holiday) 6-11	Molecular Diversity and Large Biological Molecules and the Cell	**4, 5, 7 (6)**
	"Scientists working on the origin of life deserve a lot of credit; they have attacked the problem by experiment and calculation, as science should. And although the experiments have not turned out as many hoped, through their efforts we now have a clear idea of the staggering difficulties that would face an origin of life by natural chemical processes. In private many scientists admit that science has no explanation for the beginning of life." – Michael Behe	
WEEK 4		
Sept 12-18	The Cell and Metabolism	**6, 8**
WEEK 5		
Sept 19-25	***EXAM 1 TBA***	***1-8 for Exam***
	Cellular Metabolism Photosynthesis	**10**
WEEK 6	*Cellular Metabolism Photosynthesis,*	**10, 9**
Sept 26-Oct 2	*Cellular Respiration & Fermentation*	
WEEK 7		
Oct 3-9	Cell Communication and the Cell Cycle	**11, 12**
WEEK 8		
Oct 10-16	Genetics! The Cell Cycle, Life Cycles and Meiosis	**12, 13**
WEEK 9		
Oct 17-23	***EXAM 2 TBA***	***9-13 for Exam 2***
	Genetics Mendelian!	**14**
WEEK 10		
Oct 24-30	Genetics Mendelian! Genetics Chromosomal Inheritance…	**14, 15,**
WEEK 11		
Oct 31-Nov 6	Molecular Basis of Inheritance	**16, 17**
	Gene Expression—genes to proteins	
	October 31 Last Day to Withdraw with a W	
WEEK 12		
Nov 7-13	***EXAM 3***	***14-16 for Exam 3***
	Gene Expression—genes to proteins	**17**
WEEK 13		
Nov 14-20	Gene Expression—genes to proteins REGULATION	**17-18**
	Viruses—ARE genetics—why?	**19**
WEEK 14		

Nov 21- (24 & 25 Holiday) 27	*DNA Tools and Evolution of Genomes*	**20-21**
	ROUND TABLE Proposal due 4 December by midnight in Assignments	
WEEK 15		
Nov 28-Dec 4	Mechanisms of Evolution and Macroevolution ROUND TABLES!	**22-24**
	"We cannot fathom the marvelous complexity of an organic being; but on the hypothesis here advanced this complexity is much increased. Each living creature must be looked at as a microcosm--a little universe, formed of a host of self-propagating organisms, inconceivably minute and as numerous as the stars in heaven."— Charles Darwin	
WEEK 16		
Dec 5-8	Origin of Species and Diversity of Life Prokaryotes ROUND TABLES!	**24-26**
Dec 10-16	**FINAL EXAM** *TBA*	

Note: The order of the topics will remain although the schedule may be modified as we proceed. I will announce any changes ahead of time. Have a great se