General Biology: BI 101 [Marine Biology]
LBCC, Fall 2020

Instructor: Diana Wheat
Office: Not on campus Sp term
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CRN: 20746
Section: 08, Credits: 4 credits

Class Meeting Time: Tuesdays 10-10:50 (via Zoom)
https://linnbenton.zoom.us/j/93461016474
Prerequisite: Math 75 is recommended. College writing proficiency & word processing skills essential.

Office Hours: 1:00 –2:00 pm Tuesday
Via zoom – see the link in Moodle for office hours.
Send email morning to request video chat during office hours.

Introduction:

General Biology 101 is a course designed to introduce the student to basic concepts of biology and ecology, including the process of science and hypothesis testing. The course aims to increase the student's level of ecological literacy, their understanding and appreciation of the diversity of life that shares our planet, and their capacity to understand and react to the environmental challenges encountered in daily life (with a specific theme of the marine realm). This course is designed for students at Linn-Benton Community College who are *non-science majors*. Students typically have little to no science background, yet are enrolled in this course to fulfill requirements needed for a degree and who desire to expand their knowledge and appreciation of the biological sciences. Students are not permitted to take two different BI 101 courses to fulfill graduation or transfer requirements. If a student has taken a different BI 101 course e.g. environmental issues, Oregon Ecology etc. then this general biology class will not gain the student credit – talk with the instructor for any necessary clarification.

Schedule:

Lectures delivered in Moodle: *via pdf of Powerpoint slides with "follow along" lecture guides.*
Posted by 8 am Monday. Lecture guides are NOT turned in. These are viewed at your leisure, but should be done BEFORE Zoom session if possible.
Zoom class meetings*: 1 meeting a week (live "synchronous" time). This is a time, to interact with other students, and hear updates but I will be recording and posting into Moodle if possible).*
These are **required** class sessions, group quizzes, starting week 2, will be administered approximately at 10:10-10:20, must be present for group breakouts to gain points.
Lab – *Instructions posted by Monday 8 am to be completed and* ***turned in by Friday noon****.*
Monterey Bay Aquarium Cams – Refer to throughout the term, but may be used for alternative assignment. .https://www.montereybayaquarium.org/animals/live-cams

Required Textbooks & Materials: (Order through LBCC bookstore)

Intro Biology of Marine Life, Morrissey & Sumich, Jones & Bartlett Learning 11th ed.
The Marine Biology Coloring Book, T.M. Niesen, Harper-Collins, 2nd edition

Recommended or Supplemental Materials:

Lab Manual – LBCC publishing – BI 101 Marine Biology (will be posted in Moodle, no need to purchase from bookstore) excerpts of what can be done will be modified and made available to you in the course management area of Moodle.
If you have purchased this already, don't open, hold onto it with the receipt for a possible refund at the bookstore.

Other Materials to have on hand: Colored pencils, notecards, calculator.

Course Outcomes

Note: these are tested components throughout course.

1. Discuss community interactions (in a marine context)
2. Explain how changes in human population and/or actions impact natural ecosystems
3. Describe the movement of energy & nutrients through marine trophic levels
4. Recognize the appropriate taxonomic level of an organism based on key characteristics or traits

Specific Course Themes:

- Importance of diversity
- Energy & nutrient movement through ecosystems
- Human impacts on marine ecosystems
- Organism &/or community interactions
- Population dynamics
- Life cycles and basic terminology for the major groups of organisms

Grading: Final grades for the course will be determined by each student's cumulative point total by the end of the term. This is an approximation of points for each category, and it is ***subject to changed***, as deemed appropriate by the instructor.

Assessments: ***Tentative & Subject to slight revisions as necessary***

Graded item	Points possible	Special notes
Midterm	= 50	Will occur in week 6
Weekly Reading quizzes (10)	@ 10 pts each = 90	Lowest or missed quiz dropped. Based on readings from text AND coloring pages. These are found in Moodle.
Labs (10)	@ 10 pts each = 100	Will include assigned coloring pages attached to lab report, each required coloring page – marked with a (*) on schedule is worth 1 pt.
Group Quizzes	= 5 at 5 pts each = 25	Best 5 out of 7 group quiz, which occurs during **Tuesday class session**. Must be present to take.
Individual Project Fact Sheet	= 20	In-depth web investigation on an Oregon Species Rubric and guidelines provided in week 3.
Expeditionary Learning via HMSC or Webcam	= 20	If Hatfield facility is opened in fall term, this assignment will be due week 9. Student arranges transportation for field trip. Substitute option may also be constructed by instructor in second half of term if center is closed.
Final Exam	= 70-75	Will include short answer essays in addition to a regular test – all in Moodle, last day of week 10.
Total	375 pts	

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I. Class Policies

Attendance: You are **required and expected to examine all class meetings on Tuesdays**. To the extent possible attending zoom sessions is critical to interaction and having an opportunity ask questions and gain clarification as needed. This course is a lab science course, so it is expected that you will participate and submit 70% of the labs to gain a passing grade.
Note: Per department guidelines - If a student misses more than 3 lab periods this will result in automatically failing the course, regardless of the overall percentage for the remainder of the course.

Late Work: Will **NOT** be accepted without supporting documentation to show your inability to meet deadlines e.g. a doctor's note, jury summons, military duty or hospital admission form.

II. Formal Assessments:

A. Moodle Quizzes

To be found in the Moodle course shell (bottom item per a given week). Quiz will open Monday at 12:01 pm. These will be **due Saturday nights* at 11:55 pm**. It is recommended that you finish all assigned reading, textbook and color plates BEFORE initiating the Moodle quiz. Three attempts are allowed on the reading quizzes, the highest score will be recorded by your instructor to factor into your grade. The reason for Saturday midnight deadline is that Sundays should be spent resting or starting the upcoming week's readings rather than working on older material to prepare for a successful week. Quizzes will be 10 points in Moodle and be similar to what will be experienced on the exams, thus consider this test preparation and reinforcing of the material.

- Note: With 6 days of flexibility ***no extensions will be granted***. In this class the weekly quizzes are an important feature in this course. The lowest quiz will be dropped or if you missed entering into a quiz that will be your dropped quiz.

B. Exams: Will consist of one 50 pt midterm in week 6 and one 70-75 pt ***final comprehensive*** exam in week 11 (see schedule). Tests are objective questions consisting of, but not limited to, multiple choice (worth 2 pts each), matching (usually 5 in a set for 5 pts), fill in the blank, short answer, identification, labeling, short lists, analysis of data sets, identifying correlations etc. Tests are designed to be one minute per question and must be taken in a limited window of time, generally these will be delivered on Tuesdays and available from 12 noon to 11:55 pm on test day. The final exam will also have a separate essay component. Tests are timed, one time take and are considered closed book & notes – this requires your academic integrity/honesty to take as though on campus. I will remind you the week before and send an email the day before. No make up exams are allowed, so please track the schedule carefully.

C. Labs: Instructions supplied on Moodle by MConday 8 am. Format will be quite different than on-campus labs and may include, videos, demos on Internet, Gallery views of slides, ase Studies, Worksheets, Simulations, Films etc. Typically, you will submit a two-page lab report with question prompts, which will be submitted for a graded component along with (2) of your assigned coloring pages – see schedule of those plate numbers with a *. We will discuss expectations for the color plates in the first class session. These are turned in on Moodle assignment area ***not via email***, both parts will be **due Friday noon in Moodle**. I will make one assignment area for your coloring book plates, which you should scan or photograph, and another area for the lab reports+film guides for a given week, this will reduce the complexity if you need to use different formats. Ideally pdf format is the least problematic. Questions from the coloring pages will be part of the weekly group quiz ***as well as*** the reading quiz on Moodle – read these pages BEFORE the class session on Tuesday to be prepared for the group quiz – though you can color them later if you need more time, all portions of the lab activities and color plates are due by Friday noon. Late assignments are not accepted.

Example: in week 2 the coloring pages assigned are: **14*, 63* & 66, 69, 70.**
The pages that need to be turned in by Friday (colorized and coded legend are only 14 & 63).
The group quiz on Tuesday of week 2 will be over the text material covered on all 5 pages corresponding to these plates (facing the plate). You may have a notecard of notes per each page to take notes on those pages which you can use in the group quiz. The quiz will be given 10 minutes in the zoom session – there will NOT be time to read the pages if you come unprepared.
You are welcome to colorize the other pages, but only 2 need to be turned in to be included in your lab grade, 1 pt per colored page – points will be diminished for poor quality or lacking a color-coded legend.

D. Projects: This term the individual project will be a "Fact Sheet" that you create that is based on an in-depth study of an Oregon specific species found in the Marine environment. You will sign up for your project in week 3 – there is a two person limit for a given topic. These fact sheets are due Friday of week 8 or 11/20 so that I may grade them over the Thanksgiving holiday. These projects will be placed into a folder for students to access in week 9 – so be aware that your project will be viewed and could be used by other students.

III. Special Considerations

Special Accommodations: I will be happy to make accommodations for students with disabilities or those with special needs. It is the student's responsibility to make any needs known to me within the first week of the semester, ***in*** *writing*, so that I can give appropriate accommodation. This includes but is not limited to disabilities of visual, hearing, learning, dates needed for religious holidays, court dates etc. If you have not accessed disability services and think that you may need them, please contact CFAR (Center for Accessibility Resources) https://www.linnbenton.edu/student-services/accessibility/index.php. For those students with declared disabilities or note-taking needs a letter of accommodation should be brought to the instructor by the end of week 1.

Academic Misconduct: This will not be tolerated and includes any form of cheating. If a student is found to have cheated on a quiz or exam, after due process, the resulting grade may be a zero on the given assessment. All group work *must be written in the students* ***own handwriting*** *and language*. You must turn in your own interpretation and work.

Incomplete Policy: An incomplete (IN) will only be issued when a student is unable to complete the last exam by the end of the term, has a passing grade, and has otherwise completed 75% of the work in class prior to the final exam. Each incomplete grade will be accompanied by a signed contract specifying the conditions necessary to complete the course. Incompletes are granted at the discretion of the instructor and must be arranged BEFORE the end of week 10.

Withdrawing from Classes (Dropping a Class After the Refund Deadline)
To drop a class or withdraw from school, you must turn in a Schedule Change form at the Registration Counter or at a community center or use the Webrunner system. If you withdraw from a course after the refund deadline, you will receive a "W" grade in the class. The student will forfeit all claims to refunds, and will be financially responsible for any tuition & fees. Failure to drop a class may impact your grade point average and financial aid eligibility. Note: For classes meeting 8 or more weeks, the deadline to withdraw from the class is 5 p.m. on Friday of week 7.
Behavioral Expectations: To create an engaging, safe and respectful classroom environment we will honor and appreciate that LBCC offers a learning environment free of discrimination. During Zoom sessions this course will honor a diverse array of perspectives, free of judgment and encouraging of free discourse. ***All students are expected to contribute to the learning environment and to share viewpoints in a respectful manner.*** Please be mindful that a mature, college environment recognizes that though there are differences we all seek to be recognized as a valuable member of our community.

Comprehensive nondiscrimination policy: LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws (for further information http://po.linnbenton.edu/BPsandARs/). Policy 1015.

Field Trip: If this component of the course occurs a self-guided tour to address questions and place your photos will be a "Turn it in" assignment on Moodle. This "capstone" is often a weekend trip with the class, but it may not be possible this term. If the facility is closed this expectation will be modified and an alternate form of assessing this form of "expeditionary learning" will be created that takes a similar amount of time to complete so that you still have access to those points.

IV. Specific Course Proficiencies:

- The student will be able to ***extract***, ***interpret***, ***critically evaluate*** and ***apply*** biological information from various media, such as books, articles, lectures and the Internet.
- The student will be able to safely and skillfully use basic biological equipment and techniques to ***collect and evaluate data***. This includes but is not limited to microscopes, ph meters, pipettes, computer spreadsheets and models.
- The student will be able to ***organize data*** into tables and graphs, to extract information and find patterns to ***draw sound conclusions***.
- The student will be expected to ***apply*** the scientific method, by using ***experiments*** that test a proposed hypothesis and then draw conclusions based on ***data acquisition***.
- The learner will discover and ***appreciate*** the unity, diversity and interdependence of life.
- ***Describe*** where common organisms fit in the species-domain taxonomic scheme, and key features that differentiate these organisms from organisms in other taxa.
- ***Apply*** the species concept to common organisms, and ***describe*** biodiversity in terms of number of species and list the criteria by which a species might be classified.
- ***Explain*** the factors that affect the reasons that ecosystems might occur in a particular place, and then relate adaptive traits of organisms that exist in such ecosystems.

- The learner will be able to ***list and describe*** the overall trophic structure (producers, consumers, decomposers) of a given ecosystem, and ***outline*** how energy and nutrients flow and cycle through the system.
- ***Identify*** key parameters that affect populations of organisms e.g. dispersion, growth rate, carrying capacity, competition and resource availability.

Fall 2020 Schedule –*Tentative*
General Biology 101: Marine Biology

Week Start Date	**Lecture Topics**	**Chapter Readings**	**Coloring Pages**	**Lab topic(s)**
Wk 1 9/28	Ocean Chemistry Zones of the ocean Geography	Ch 1 & 2 Sec 1.1, 1.2, 1.3 Sec 2.1 & 2.2	Read Coloring Instructions **Set 1* & 2***	Marine Geography I Physical Properties of Water: Halo/Thermo
Wk 2 10/05	Spatial Associations Community Dynamics Trophic levels	Ch 2 (cont.) Ch 3 sec 3.1 & 3.3& pg 62-64	**14*, 63*** **66, 69, 70**	Effects of Light Film Rec (see list on next page).
Wk 3 10/12	Marine Microbes Productivity	Ch 4 & 5, Sec 6.1	**11*, 18, 19, 20* & 21**	Microbes/Plankton Sea Weeds **Fact Sheet Assigned**
Wk 4 10/19	Taxonomy The Benthos Life between the sand grains	Sec 3.2, Ch 6 Sec 6.3, 6.5 Pg 159-162 Sec 10.1 & 10.2	**9*,10, 35*, 36 & 37**	Invertz I: Crustaceans **Shape of Life – Marine Arthropods**
Wk 5 10/26	Phylogeny Intertidal	Ch 6 154-157 Ch 10 (cont) Sec 1.4 & 10.4	**3,29,30*,31,34***	Invertz II: Mollusks **Shape of Life -Mollusks**
Wk 6 11/2	**MIDTERM (50) Tuesday** Life of the spiny Estuaries	Ch 6 (cont) Ch 9 Sec 10.3	**27, 8, 39*,40,41***	Invertz III – Worms & Echinoderms Osmoregulation **Shape of Life - Echinoderms**
Wk 7 11/9	Distribution within communities. Tide pools Community interactions	Ch 12 & 10.4 281-286	**4, 5* ,6, 97*, 81**	Barnacle Zone
Wk 8 11/16	Coral reefs Fish I	Ch 6, Sec 6.4 Ch 11, Ch 7, sec 7.1-7.4	**12*,13,23,24,47***	Cnidarians – coral samples Fish Adaptations **Film – Coral Reefs** **Fact sheet due 11/20**
Wk 9 11/23	Fish & Sea Turtles Deep Sea	Ch 7 (cont), Sec 7.6 Ch 13	**17*, 43, 49*, 51, 53**	***Film - Mission Blue*** **Excursion Assignment due Wed. 11/24**

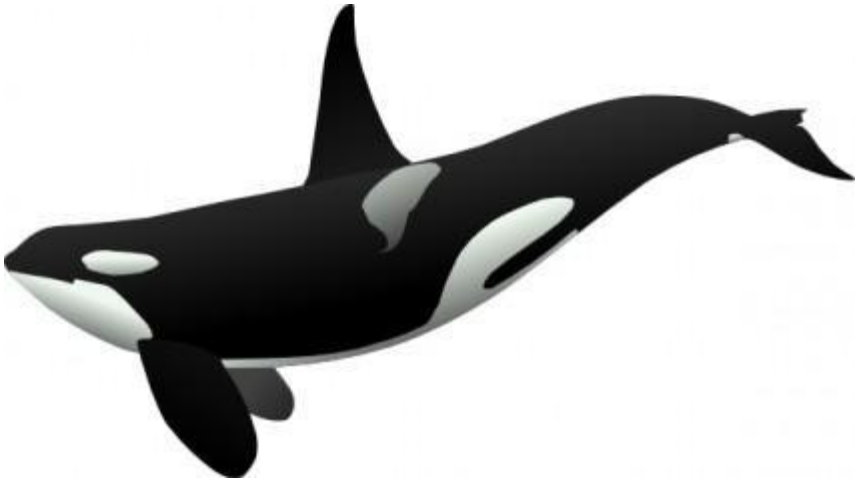
Wk 10 11/30	Marine Birds & Mammals	Ch 8 & 14	**59, 60*,61, 62* & 71**	Cetacean & Bird Acoustics

*Coloring pages that need to be turned in via Moodle as part of lab grade (color code legend).

Final Exam (70 or 75 pts) – Tuesday 12/7/2020, noon-11:55 pm

Film Assignments

Recommendations	Required Films
Week 2 – Dark Side of the Ocean (Amazon Prime)	**Waves & Tides: Fierce Earth – Films on Demand**
Week 3 – Big Pacific: Episode 3 (on Amazon Prime)	**Bioluminescence Ted Talk** Link found at end of Lab 2, (12 min)
Week 4 –	**Shape of Life – Marine Arthropods**
Week 5 –	**Shape of Life -Mollusks**
Week 6 –	**Shape of Life - Echinoderms**
Week 7 – Enduring Species: Segment 9 (Films on Demand)	**Tidepooling On the Oregon Coast with Jane Lubchenco** – OPB via YouTube
Week 8 – Oceans (Academic Videos)	**Coral Reefs/Blue Planet 2** – Academic Videos
Week 9 -	**Mission Blue** – Kaltura? Details **TBD** Available on Netflix but I'm trying to arrange streaming for all students.
Week 10 –	**Voracious** – Academic Video



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