

General Biology: BI 101
Marine Biology
LBCC, Fall 2021

CRN: 20746

Section: 08 - Hybrid

Credits: 4 credits

Email: Instructor: Diana Wheat

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Office Hours: 4:00 –5:00 pm Tuesday

This is on Zoom – find link in Moodle.

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. This course is designed for students at Linn-Benton Community College who are *non-science majors*. Students typically have little to no post-secondary 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/life 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, the General BI 101 etc. then this biology class will not gain the student credit – talk with the instructor for any necessary clarification.

Course Format: Lecture online delivery in Fall 2021.

Lab is on campus Wednesday. – Required attendance

1 X/week_ Wednesday 1-2:50 pm in WOH 218

Prerequisite: Math 75 is recommended. College writing proficiency & word processing skills essential.

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

Lab Manual – LBCC publishing – BI 101 Marine Biology

Recommended Materials:

Colored pencils (5-10 suggested colors), 3 ring notebook & 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 Monday of week 6 – covering week 1-5
Weekly Reading quizzes (10)	@ 10 pts each = 90	Lowest or missed quiz dropped. Based on readings from text AND coloring pages. Quiz is in Moodle.
Color pages	2 per week x 10 = 20	Those pages marked with a (*) on schedule. Worth 1 pt. Can be shown in lab or uploaded.
Labs (10)	@ 10 pts each = 100	Includes 2 pt prelab, which must be turned in at start of lab. Lab report - 8 pts each week.
Case Studies (2)	@ 5 pts each = 10	Done in assigned groups
Individual Project Fact Sheet – 2 pg	= 25	Individual investigation on Marine Ecology Rubric and guidelines provided in week 3.
Final Exam	= 80	Will include short answer essays in addition to a regular test – all in Moodle.
Total	~375 pts	Approximation

I. General Policies

Attendance: This is a hybrid course. Students are expected to attend on campus labs. In the Fall 2021 term, lectures will be provided online rather than in person. This course is a lab science course, so *it is expected that you will attend & submit at least 70% of the labs to gain a passing grade*. If a student misses more than **TWO** lab reports this can result in automatically failing the course, regardless of the overall percentage for the remainder of the course.

Students that must be absent from lab due to quarantine status or illness will be provided an opportunity to make up a lab, but must be in communication with your instructor as soon as the student or a live-in family member e.g. care of child(ren) in quarantine limits attendance of your lab class. You may be asked to provide documentation or further information, but I understand that in some cases this may not be possible. *For the safety of our classroom environment, please do not attend class if you are sick, inform the instructor that you are unable to attend class within a timely manner (no later than the morning of lab)*. Your instructor will work with you; no labs will be provided retroactively, you must inform the instructor via email on the day of the lab, or in advance if this is possible, of your inability to attend lab. Documentation* may be requested to be eligible for an alternate lab – up to two labs maximum for extenuating circumstances; this is only with expressed communication of instructor.

*Doctor's note, employer notification, school letter related to child's quarantine status etc.

Children and guests are not allowed in the classroom while students are attending class this is in consideration of your peers to maintain a professional learning environment; as well as consideration of safety to children because of potential exposure to lab materials.

➔ **FACE COVERINGS ARE REQUIRED BY ALL STUDENTS AT ALL TIMES WHILE ON CAMPUS AND IN THE CLASSROOM.** Individuals who do not comply with this college requirement, will be asked to leave the classroom and referred to the Dean of STEM.

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 readings, textbook and the reading of assigned 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 an 80 pt *final comprehensive* exam in week 11 (see schedule). Tests are objective questions consisting of, but not limited to, multiple choice, matching, fill in the blank, short answer, identification, labeling, True-False, 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. Check syllabus schedule for days of midterm and final. These tests are available from 12 noon to 11:55 pm on test day – a 12 hour window. 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. Early exams will not be allowed for any reason (including the booking of airline or event tickets) – so please plan accordingly.

C. Labs – On campus

Prelabs – found in the lab manual, should be filled out in advance of coming to lab and are turned in as you enter into the lab. These on page documents are 2 points of the overall lab grade score for a week.

Coloring pages - Prior to lab you will fill out the 2 assigned coloring pages (marked with a *on the schedule); use colored pencils only (no pen) – you will make a legend, using different colors

to represent different features on the pages and you are encouraged to also underline the associated text with those colors when appropriate. These pages can be shown to your instructor in the lab – and your book returned to you before you leave OR you can scan your finished work and upload it into the course area no later than Friday 5 pm. Each week **these pages are worth 2 points**. The text for all of the assigned pages should be read, one per day prior to taking the weekly Moodle quiz, which will feature questions from these pages. The text material from all assigned pages is required and can also feature material on future exams.

Lab reports - Bring this hard copy lab manual with you in a 3 ring binder to the first class. You will submit the finished report at the end of lab whenever possible, but in some circumstances the lab report will be extended for follow up analysis questions and will be due no later than Friday 5 pm, in a given week These are turned in on Moodle assignment area **not via email**. Ideally pdf format is the least problematic to submit. Do NOT submit Google docs.

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 ecological issue on the Oregon coast, a list will be provided by your instructor. You will sign up for your project in week 3. These fact sheets are due Friday of week 9 or 11/22 so that I may grade them over the Thanksgiving holiday.

III. Special Circumstances:

Late Adds: No student will be added to the course after the first lab of classes. All material covered the first week, including labs, is subject to being on the weekly quizzes and the exams. Missing more than one week is very detrimental to a student’s grade. No student will be added after the first lab, regardless of room available.

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, and each incomplete grade will be accompanied by a signed contract specifying the conditions necessary to complete the course. Deadline to drop a course is the end of the 7th week of the course.

Special Accommodations: Students who may need accommodations due to documented disabilities, or who have medical information which the instructor should know about, or who need special arrangements in an emergency, should speak with the instructor during the first week of class. If you have not accessed services and think you may need them, please contact CFAR, 917-4789. If you have documented your disability, remember that you must **complete a "Request for Accommodations" form every term** in order to receive accommodations. 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. Student athletes and students who have *school sponsored events* that may conflict with class, e.g. missing labs or exams must make your needs known to me at least one week in advance for accommodations, this will also require instructor/coach letters explaining your situation and respective dates of missing regular scheduled class.

Inclement Weather Policy: If the campus is open class will be given (including lab days) and scheduled exams/quizzes will be administered. Only if the campus is closed will an exam be postponed, and this will occur on the next scheduled class date following the closure. If a late start is announced classes will resume on their usual scheduled times. Listen to local media coverage for notice of closures e.g. radio stations and/or information posted on the LB website.

III. Behavioral Expectations:

Cell Phones: As a courtesy to your fellow students and instructor, please turn off all cell phones and pagers during the instructional period. Cell phones are not to be used in class. It must be put away while class is in session. *If you leave class to answer/place a call/text message, you will be expected to leave for the rest of the day. Break times are the only exception.* Anyone who needs to have a phone connected (e.g., spouse close to labor, a child sick at home) must clear it with the instructor at the beginning of the class period. Cell phones may not be used for calculators during class, labs, or exams - you must use the calculators provided or bring your own – no exceptions to this rule. During an exam using a phone will result as a zero for that exam.

Personal Computers (Notebook/Laptop/PDA): To use a computer such as a Tablet, Laptop or PDA for class notes please make an appointment to speak with the instructor outside of class time to fully understand the limitations and responsibilities for their use. Computers in the labs are only to be used for class or lab activities, not for personal reasons and under no circumstances should downloads of software be attempted, this may lead to disciplinary action, due to a need to protect our class computers from viruses.

Academic Misconduct: Will not be tolerated and includes any form of cheating or plagiarism. The student is encouraged to read the student code of conduct for further details at: <http://www.linnbenton.edu/admissions/academic-regulations>. If a student is found to have cheated on an exam, after due process the resulting grade may be a zero on the given exam or quiz. *All group work should still be written in the students own handwriting and language.* You must turn in your own interpretation and work even if doing team work projects or labs.

Extra Credit: On a few occasions such as on exams there may be extra credit, which will be high-challenge questions that can aid your score. Even if you do not know the answer you are encouraged to try. This credit will generally not influence a grade more than 2% for the overall grade, but it could make a big difference in borderline grade situations. Extra Credit will NOT be issued or allowed for missed work – there are no exceptions to this rule. My general policy for all students is that “I cannot do for one student what I cannot do for all.” Extra Credit will also be built into the coloring pages HW, with sufficient options 1 pt per E.C. page to make up for a missed group quiz. Please do not ask for exceptions due to poor performance, no extra credit work will be granted by individual negotiation.

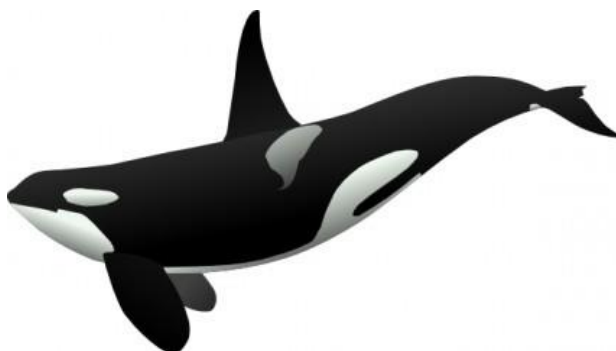
Timing of Assignments: Unless the instructor indicates otherwise, assume that all pre-labs will be turned in within the first five minutes of the lab period. This document indicates preparation to start the lab. All lab reports will be turned in at the end of the lab period on the day of the lab, unless your instructor should advise differently because of follow up extension assignments or labs that continue into subsequent weeks i.e. ongoing experiments or activities.

Statement of Non-discrimination: 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/>

Statement of Respect: Your instructor will make every attempt to create an environment free of distraction and one open to free discourse. The college environment is one of exploring ideas, but also in a context of mutual respect for your peers and instructors. If a pattern of disrespect develops the instructor reserves the right to discuss appropriate behavioral expectations with individuals that may not fully understand this responsibility. At no time will a hostile or condescending classroom environment or discussion be allowed. Civil discourse is an honored value at LBCC, those individuals that do not maintain a professional and civil learning environment will be referred to the dean of students if necessary.

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, complexity 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.
- The student will be able to **report** how humans interact with and depend upon the environment, and be able to **identify** major impacts of human population and technology on the environment, and then be able to relate how humans can minimize detrimental impacts on ecosystems and the organisms that are within them.



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Fall 2021 Schedule –Tentative
General Biology 101: Marine Biology

Week Start Date	Lecture Topics	Chapter Readings	Coloring Pages	Lab topic(s)
Wk 1 9/27	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 10/04	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
Wk 3 10/11	Marine Microbes Productivity	Ch 4 & 5, Sec 6.1	11*, 18, 19, 20* & 21	Microbes/Plankton Sea Weeds Fact Sheet Assigned
Wk 4 10/18	Taxonomy The Benthos Life between the sand grains Case Study 1	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 10/25	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 11/1	MIDTERM (50) - MON 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 11/8	Distribution within communities. Tide pools Community interactions	Ch 12 & 10.4 281-286	4, 5* ,6, 97*, 81	Barnacle Zone
Wk 8 11/15	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
Wk 9 11/22	Fish & Sea Turtles Deep Sea Case Study 2	Ch 7 (cont), Sec 7.6 Ch 13	17*, 43, 49*, 51, 53	Fish Dissection 1 & 2 Lionfish Case Study Fact sheet due 11/22
Wk 10 11/29	Marine Birds & Mammals	Ch 8 & 14	59, 60*,61, 62* & 71	Cetacean & Bird Acoustics This lab done at home

*Coloring pages that need to be turned in at the start of lab. (color code legend).

Lab 10 will be done at home (no need to come to campus).

Final Exam (80 pts) – Wednesday 12/8/2021, noon-11:55 pm