**BI 101: Environmental Science Instructor:** Diana Wheat

**LBCC, Winter 2019** Office: WOH 207

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**Section: 08**

**Credits:** 4 credits

**Lectures:** Monday: 10:30-11:50, Wednesday 10:30-11:50,(WOH 214)

**Lab:** Friday10:00-11:50 🡨 ***Note earlier time start*** (WOH 214)

**Instructor Office Hours:** 1-1:50 pm Monday & Wednesdays

**Advising Hours:** 9-10 am Fri (also for grade checks)

Students may contact the instructor via email (preferred) or by phone to make a special appointment outside of these office hours. Generally speaking, I can meet you for a

***pre-arranged appointment*** after class on Monday and Wednesdays.

**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 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. General Bio 101, Oregon Ecology, Marine Biology etc. then this general biology class will not gain the student credit – talk with the instructor for any necessary clarification.

**Recommended Prerequisite:** MTH 075 (Variables and Linear Equations)

This course is taught as a discrete and separate course in biology. It is not necessary to have any other biology courses before taking this course for non-majors.

**Texts:**

* Visualizing Environmental Science, 4th edition. Authors: D. Hassenzahl, M.C. Hager & L.R. Berg, Wiley Publisher.
* Lab Book BI 101: Environmental Issues Section, Gen. Bio Laboratory Manual Spring 2017 ed., Biology Department publication (available only in bookstore)

**Recommended Materials:**

3 ring notebook, colored pencils, calculator.

2 Scantron forms for testing (required). Available in the bookstore.

**Midterm Exam: 2/4/2019**

**Final Exam: 8-9:50 Wednesday March 20th**

**Holidays/No Class: 1/21/19 MLK & 2/18/19 President’s day**

**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**:

Pre-lab assignments @ 2 pts each = 18 pts (No prelab for first lab)

Lab Activities 10 @ 10 pts each = 100 pts

Quizzes 2 @ 15 pts each = 30 pts

Midterm = 60 pts

Team project = 30 pts

Film summaries = 10 pts

Case Study & In-class activities\* = 5-10 pts

Final Comprehensive exam = 75 points

Total = ~330 points (Approximation)

\*In class activities are unannounced

**Course Outcomes**

* Be able to discuss biological community interactions.
* Be able to explain how changes in human population and/or actions impact natural ecosystems.
* Be able to describe the movement of energy & nutrients through trophic levels.
* Recognize the appropriate taxonomic level of an organism based on key characteristics or traits.

**Grading Scheme:**

A: 90 - 100%, B: 80 – 89%, C: 70 – 79%, D: 60 – 69%, F: 59.4% or below No +/-

**I. General Policies**

**Attendance**: Students are required and expected to attend all lectures. No grade will be assigned for attendance but to do well in this course it is expected that you will attend ALL lectures and labs. Periodically, I will send around a sign-up roster to monitor participation or a small activity will be worth points to show attendance e.g. on film days or during in-class activities. If a situation arises that makes it necessary to miss class it is the student’s responsibility to obtain notes from a peer. No quizzes or lab work will be accepted for credit if you were not in attendance for the class when the work was performed. This course is a lab science course, so ***it is expected that you will attend at least 70% of the labs to gain a passing grade***. If a student misses more than **TWO** lab periods+ this will result in automatically failing the course, regardless of the overall percentage for the remainder of the course. **+**assuming a regular 10 week lab progression.

**\*Children 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.**

**Quizzes:** As noted on the syllabus there will be 2 quizzes primarily over reading material. It should be assumed unless your instructor tells you otherwise that the quiz will be primarily over the reading material covered in the chapter readings prior to the quiz day supplemented by the respective lectures for that unit. The quizzes will be closed book and closed note. You will be given 15 minutes at the **START** of the lecture day for taking the quiz. Be on time – no late takes!

**Exams**: Objective tests consisting of multiple choices, matching, short answer, binary decision, labeling, true/false, data analysis and graphing. Please bring scantron form to each exam.

**Make up exams:**

There will be **NO** make-up exams unless I am informed**, in writing**, PRIOR to the exam that you will need to miss it for a “documentable” reason. You need to talk with me directly for approval to make up an exam, exceptions are rare, but I do understand complications that can make it impossible to meet an exam date. Exams may NOT be taken early. Approved late takes must be made up before the next class session following an exam. I do not drop any exam or quiz grades. If you miss an exam, the grade is a zero. On the exam day if you have a life situation come up you must call me and leave a message on my voice mail or send me an immediate email, and only then with your instructor’s approval will you be eligible to take an exam. You will then need to come into the next scheduled office hour period to take that exam (or I will arrange to have your test placed into the test center). Regardless of administration location, it must be taken before exams are returned to the rest of the class, usually this will be within two days of when the exam was issued). Early exams will not be allowed for any reason (including the booking of airline or event tickets) – so please plan accordingly.

**II. Special Circumstances:**

**Late Adds:** No student will be added to the course after the second day of classes. All material covered the first week, including labs, is subject to being on the unit quizzes and 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.

**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.” Please do not ask for exceptions due to poor performance, no extra credit work will be granted.

**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.

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

**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.

**V. 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, early labs may resume and be held if the college opens during the scheduled lab period e.g. 2 hour delay. Please listen to local media coverage for notice of closures such as T.V. & radio stations. Closure information is also posted on the LB website.

**Winter 2018 Schedule –*Tentative***

**General Biology 101**

**Week Chapter**

**Start Date Readings Lecture Topics Friday Lab**

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| Wk 1- 1/7 | Ch 1  Ch 2, sec 2  Pg 31-34 | Critical thinking / Logic  Worldviews | Lab 1  Scientific Method  & Transportation survey |
| Wk 2 – 1/14 | Ch 3, sec 1  Ch 15, sec 1 | Species Concept | Lab 2  Biodiversity/Taxonomy |
| Wk 3 – 1/23  **No class 1/21**  **Quiz W** | Ch 15,  sec 2-4 | Endangered species  Start of **Polar Bear** **Case Study** | Lab 3  Biodiversity in Crisis |
| Wk 4 – 1/28 | Ch 7 | Population Biology  Human Demographics Study  **Polar Bear Tracking CS II** | Lab 4  Population Estimation  Mini-UN summit |
| Wk 5 – 2/4  **Exam - M** | Ch 5  sec 1, 2, 4 | Community level ecology  Riverwebs film – Wed | Lab 5 – Not in lab manual  Topic: Succession  & Food webs |
| Wk 6 – 2/11 | Ch 5  Sec 3 & 5 | Nutrient cycles  Carbon Footprint Activity | Lab 6 (in lab manual #5)  Simbio Nutrients lab |
| Wk 7 – 2/18  No class Mon | Ch 10 & 11 | Water Quality | Lab 7  Microbes & Water Quality  Lab 10 – Daphnia Activity |
| Wk 8 – 2/25  **Quiz W** | Ch 12  sec 4 & 5  Ch 14  Sec 1,2, 3 &4 | Soil biotic diversity  Agriculture & Biology  Agro-ecology: In-class article | Lab 8  Community Structure  Soils Vermiculture tests  Mini-UN summit (food) |
| Wk 9 – 3/4 | Ch 8  Sec 1 &2  Ch 9  Sec 1 & 2 | Atmosphere & Air pollution  Climate Change | Lab 9  Air pollution |
| Wk 10 –3/11 | Readings  TBA | **Project – Team Projects**  **Presented M & W** | Lab 10  Sustainable solutions |

**Quizzes**: 1/23 & 2/27 **WEDs,** **Midterm: MON** 2/4/19

**Final Exam**: 8-9:50 am **WED** 3/20/2019

**General Lab Science Outcomes:**

1. *Recognize, understand and use fundamental concepts of science to explain natural phenomena.*
2. *Utilize critical thinking and effective problem-solving skills as well as gather and evaluate information to systematically approach challenges as an individual and as a contributing member of a team.*
3. *Recognize, understand, and use the methods of science (collection of data, designing experiments, testing hypotheses, drawing conclusions) to solve problems and answer questions about natural phenomena.*
4. *Demonstrate an interest in, an appreciation of, and confidence in using science and technology as a way of understanding natural phenomena.*
5. *Effectively communicate concepts related to basic science using a variety of methods, such as writing, graphics, computers and the spoken word.*