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Biology 104 Environmental Biology Fall 2015

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Bio 104- Environmental Biology

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Campus-wide syllabus addendum

https://cobra.parkland.edu/shared/shared%20content%20files/syllabus_addendum.html

See this document if you have questions about college honesty policies, college resources for your success, or need academic accommodation.

Required materials:

Bio 104 Modules and Laboratory Guide for Environmental Biology, 14th edition; Stipes Publishing

3-ring binder

Revel-Access Card : A Changing Planet, Neff ISBN 0-13-408117-X

<https://console.pearson.com>

Access to Cobra

<http://my.parkland.edu> OR <http://cobra.parkland.edu>

ParklandOne Password Station

<https://one.parkland.edu/>

Description:

Bio 104 examines the relationships of humans to their environment, including consideration of natural cycles and balances, populations, energy, hazardous chemicals, air, water, noise, and solid waste pollution. Field trips and laboratory exercises are required. The hope of the designers of the curriculum is that this course teaches you some of the science of environmental studies while making it interesting and relevant to your lives. There are no prerequisites for this course; all are welcome!

Bio 104 will transfer to virtually all two and four year colleges in the state of Illinois by virtue of its approval as an IAI general education course (IAI L1 905L). It should also transfer to most colleges and universities outside of Illinois but you should check with the institution you plan to attend to make sure.

Most science courses consist of lecture and lab. Lecture involves activities, traditional lecture, videos, discussions, and a plethora of other instructional activities to help you learn the content of the course. Lab incorporates activities that involve scientific thinking and investigation to determine the answer to a question, and field trips that allow for direct observation of aspects of environmental science. You will be using Cobra to help manage the course materials and your grades throughout the semester.

You are expected to attend all on campus lectures and labs regardless of their format. If you are not present, you are not there. Few assignments will be able to be made up. It is your responsibility to learn what you missed, and what you can make up.

Goals:

This course aims to:

- To introduce the basic principles and applications of environmental science to increase students' environmental and scientific literacy.
- To teach students how to use science to understand and solve environmental issues of global concern.
- To broaden knowledge about global, national, and local environmental history, environmental issues, solutions, and future projections.
- To illustrate that environmental science is an interdisciplinary field, incorporating all of the liberal arts and sciences.
- To show how connections existing among environmental, economic, ecological, and social issues play a role in creating and solving environmental issues.
- To nurture students' self-awareness and challenge students to relate to others from different cultures, backgrounds, and value systems.
- To generate a more informed voting citizen in matters of global environmental concern.
- To change personal attitudes and behaviors toward more environmentally sound beliefs and practices.
- To determine sustainable and resilient solutions to environmental problems, and gain the foundation necessary to carry them out.

Parkland General Education Objectives:

In the tradition of Parkland College, this course is also dedicated to helping you to recognize your full potential as an educated person. Bio 104 emphasizes the following general education objectives in some part:

- Demonstrate ability to solve problems, by collecting and evaluating facts and using methods of scientific inquiry.
- Demonstrate their understanding of worldwide political, social, behavioral, environmental, and economic issues and ideas, as well as historical, cultural, and geographical perspectives.
- Demonstrate information literacy and their ability to think critically, which includes identifying biases and selecting and evaluating sources from varying as well as conflicting positions.
- Demonstrate ability to understand the necessity of core values in helping them make ethical personal, social, and professional decisions.

Evaluation:

The schedule will appear on Cobra, and all assignments and due dates will also appear there as well as be announced in class. Cobra will be updated constantly throughout the semester, so learn to use the course site! It will be one of your most valuable resources as the semester progresses.

<http://cobra.parkland.edu>

These point values are estimates, but the weight will remain the same. Your instructor has the right to change the overall points in the course.

LEARNING: 50% OF TOTAL GRADE

Revel Work: 12.5% of total grade

The textbook this semester, as well as all lectures and quizzes, will be related to the Revel system. You'll be using the book *A Changing Planet* by Neff. This is an online system in which you will read a little bit of text (usually the equivalent of two-three textbook pages) and answer a handful of multiple choice quiz questions about what you read. You will get points for actually reading the text and taking these quizzes. At the end of each chapter, there is a longer multiple choice quiz you can use to practice for the actual module quiz on Cobra.

Lab Exercises: 17.5% of total grade

Labs involve a variety of activities: experiments, demonstrations, field labs and field trips. You will receive 5-10 points for each lab for being present and engaged. For some of the labs, you will need to turn in a report (purple pages in course packet) for points. Your instructor will give you instructions on reports during class.

If you are not present, or are more than 30 minutes late, you will not receive the points for a given lab exercise.

Each student is responsible for their own transportation to off-campus field trips. Carpooling among students is encouraged. The C-U MTD (local bus service) has routes to most off-campus field trip sites. Please check for routes prior to the morning of a field trip.

All field trips are held rain or shine. Weather conditions could be cool, windy or wet, so dress accordingly.

Assume that labs cannot be made up, but also talk to your instructor within 24 hrs of your absence in case there is a make-up opportunity.

Safe and respectful conduct are requirements during off-campus laboratories.

Activities: 12.5% of total grade

Each instructor will do diverse activities during class. For example, your instructor might assign a research essay, a service learning project, hold a discussion, debate, or give you clicker quizzes. Talk to your instructor if you are unclear about how you are able to earn these points, but keep in mind that these are flexible points that are assigned based on the topics in class.

Examples of activities:

Case Studies: Each case will include at least one handout with questions that tie together key science content concepts from that unit with the social, political, and economic aspects of sustainability. These questions will vary with the actual case study, but all will require you to make connections and think beyond data given to them. In some instances, the Midwestern states of the US will be compared to Brazil, or students will compare other countries to Brazil thereby diversifying their perspectives. See the weekly schedule for more details. An example of a case study is that you will decide the fate of a hectare of Amazon rainforest; another is to look at the Cerrado plains of Brazil

Online discussions: Each week your instructor will post a weekly question for you to answer via Cobra. You will receive a separate instruction sheet for this activity.

You may or may not be allowed to make these assignments up. Check the calendar and your instructor to see if there is an opportunity to make these points up.

Portfolios: 7.5% of total grade

Students will be keeping a portfolio. Some examples include a portfolio of your footprints. An example of a footprint is to calculate your ecological footprint, then compare it with others' in class and around the world. Another example is to design a sustainable "ecocity". During each module, students will be given specific assignments to add to each portfolio. If these are online, they will be graded throughout the semester.

QUIZZING: 30% OF TOTAL GRADE

Module Quizzes: 15% of total grade

Each module of study will have a quiz associated with it that focuses on basic concepts regarding environmental science and knowledge needed for activities and labs. Questions are from Revel chapter quizzes. To help you study for each quiz, you can use a variety of resources:

Course packet

Powerpoint slide shows in class and on Cobra

Revel

Class activities

Notes from class

Each quiz is timed, and is accessible from any computer.

At any time, you can view the quizzes and see what questions you missed by visiting your instructor during student office hours.

If you require alternative testing, please let your instructor know as soon as possible.

Essay Quizzes: 15% of total grade

You will also have a set of essay questions that are related to an article you are required to read before you take the quiz. You will be given the article well before the quiz and can read it as many times as you want. The questions are reading comprehension (do you know what the article is about?) which means that you will need to use course content from Revel to help you understand the article. There will also be opinion questions, and you will be expected to give YOUR honest and educated opinion about the situation or the solution presented in the article.

FINALE: 15% OF TOTAL GRADE

Semester Project: 7.5% of total grade

Students will have a semester-long project on a topic of the instructor's choice. You will be given a specific instruction sheet for this project, and it will be due after midterm.

Examples:

Poster presentation: You will participate in the Natural Sciences Poster Session and design and present a poster on an environmental issue and solution in Brazil. You will be graded on a thorough description of the issue, content accuracy, literature research, and analysis of the solution.

Volunteer work: You will find a place in your community to volunteer 5 hrs over the semester. You can volunteer more for extra credit points. It is required that you fill out a form with a supervisor, and submit required documents about the activity you did.

Final Exam: 7.5% of total grade

The final exam will be comprehensive. There will likely be a multiple choice section and two-three essay questions similar to assignments in class. More details will be given to you at the end of the semester with ample time for you to prepare.

WORK ETHIC AND PARTICIPATION: 5% OF TOTAL GRADE

This grade will be earned by your behavior in class, peer review of your group work, attendance of lecture and lab classes, attention to course activities, and time on task. Your instructor will give you more details about these assignments.

EXTRA CREDIT: NO MORE THAN 5% OF TOTAL GRADE

You can earn extra credit in some of the graded categories throughout the semester. Watch the Bio 104: Environmental Science at Parkland Facebook page for postings, and feel free to post any relevant information on this page. Any relevant volunteer activities, seminar and talks in the community, extra projects, Parkland Science Club events, environmental work days, etc. can count for extra credit. You must get permission from your instructor in order for them to count. All extra credit is due on the last day of classes at 5pm.

Grading:

Your grade will be updated on Cobra as often as possible (every month), so you should have a clear idea of what you are earning at any given moment. The grading scale is as follows:

A 90-100% B 80- 89% C 70-79% D 60-69% F 59% or below

Attendance Policy

Regular and prompt attendance is expected at all classes, and is necessary for academic success in college. This course has a somewhat flexible attendance policy and offers many points of extra credit to accommodate illness, emergencies, conflicts and other life situations. Regardless of the nature of the absence, it is your responsibility to contact your instructor regarding making up assignments prior to the absence or within 24 hrs of the absence, and to make up any work within one week of the absence. If you do not do this, your instructor will likely not offer you opportunity to make up assignments. Instructors have the prerogative to offer graded assignments during class without possibility for make-up.

If a student falls asleep, is doing non-class work, using their computer or phone for non-class activities, they are not mentally present and may be counted as absent. Students are also expected to check their Parkland E-mail and Cobra a minimum of once a week. These policies will remain firm regardless of the nature of the absence.

Lab Attendance

Each lab has an attendance/ participation score of 5 points that will be awarded based on attendance, tardiness, and active participation in the activities. Students arriving late to lab or a field trip will have points deducted.

Lab attendance is required. If a lab must be missed, the following must happen if any credit is to be given for the lab report:

- Contact your instructor via email prior to or within 24 hours to receive any opportunity for a make-up activity. Note that not all lab exercises have a make-up opportunity. Regardless, you will earn 0/5 participation points because you were not present. Any report is due at the same time as the rest of the class, unless other arrangements are made.
- Regardless of the reason, students may only earn points for TWO missed labs per semester, and are still completely responsible for all missed information.
- Extra credit may be obtained to make up for any missed points due to lab absences, but it is important to get the information, too!

You are responsible for all information and announcements given in a class that you missed. It is your responsibility to obtain the missed information. If you miss a class or a lab, please look at the Calendar, then contact your instructor so materials can be prepared for you.

Deadlines

Typically, deadlines will not be extended as a result of absence. Please talk to your instructor about your absence within 24 hrs of your absence, and possibly arrangements can be made for you to make missed assignments up. Consideration will be given, but there is no guarantee that you will be allowed to make-up the assignment.

Rules for Success

- Engage in class
- Do not plagiarize. If you are concerned with what that means, please talk to your instructor.
- Do not cheat.
- Do your own work.
- Come to class. Even better, come to class prepared, and on time. That said, it's better that you come to class unprepared or late than not at all!
- Any assignments that require class participation as part of the grade cannot be accepted late. All other assignments can be turned in within 1 week of the due date, minus late points. All quizzes and exams must be completed on time unless exceptional circumstances exist.
- Get organized and stay organized. "I didn't know the deadline" is not an excuse past week 2.
- Stay on top of assignments and course material. Use Cobra and other course communications a lot.
- Ask questions.
- Think.
- Communicate.
- Use your resources, including the Center for Academic Success
- Talk to your instructor and the lab monitors. They are being paid to help you earn the grade you want to earn!
- Participate. Be present. Stay alert. Engage yourself. Make the course interesting to you.
- READ.
- Devote yourself to the course material. You don't learn from listening, but from reading yourself and thinking and questioning. Parkland recommends that you need to spend a minimum of 2 hours per credit hour studying on your own in order to successfully study and learn. That means Parkland recommends spending a minimum of 14 hours outside of class (this does not include the 6 hours in class) on course material to be successful. Realistically, you probably need to devote 8-10 hours, but this is dependent on you, your learning style, and your commitment.
- Learn what circular arguments are and don't use them.
- Don't write vagaries like "it", "they", "natural", "organic", "pollution", "green", and "environmentally friendly". These things are empty and mean nothing.
- Don't let a fear of science scare you into a grade that reflects your fear rather than what you're capable of. Science is a wonderful creative process that involves exploring the world around you. If you can tackle that and learn some vocabulary and important environmental facts along the way, and put a little effort and thought into it, you'll likely do very well in the course.
- Make the numbers work for you, don't just say, "I hate math".
- Be respectful of all in the classroom. Be sensitive of the myriad of opinions, perspectives, emotions, and directions that you will hear in the course.
- Be honest and express your own opinion, particularly your educated one.
- Challenge yourself, and what you think you know.
- Put yourself in other's shoes.
- Be creative. This curriculum is about finding solutions.
- Don't think, "Can it be done?", but, "How can we do it?" .

Course Schedule: All assignments and due dates are posted on Cobra for your section. Specific activities are subject to change. Changes will be posted on Cobra.

Module	Topic	Revel Chapters	Lab	Possible Activities
1	The Planet	The Science of Sustainability Populations and Communities (5.4-5.6) Ecosystems and Biomes Biogeochemical Cycles	Science Monarchs Prairie/Biodiversity	City as an Ecosystem Laws of Ecology Ecological Footprint Money Can't be Eaten TED talk; Juliana Machado Ferreira: The fight to end rare-animal trafficking in Brazil
2	Demography & Biodiversity	Populations and Communities (5.1-5.3, 5.7) Biodiversity and Evolution Human Populations	Restoration Natural Selection	Global Age-Structure Diagrams The Deforestation of the Amazon: A Case Study in Understanding Ecosystems and their Value Urban Planning Success: Curitiba, Brazil
3	Energy	Energy Use Nonrenewable Energy Renewable Energy	Energy Audit MTD	History of Energy Use Home Energy Audit TED Talk: Hans Rosling, The Magic Washing Machine Global Energy Budget
4	Stuff	Waste Management (except 15.3)	Alternative Shopping IDEA Store UIUC Recycling Facility	Product Life Cycles Story of Stuff Toxins Survey Stuff Footprint
5	Air & Climate	The Atmosphere and Air Pollution Climate	Wastewater Treatment Carbon Games	Air Quality Survey Carbon Footprint
6	Making Choices	Environmental Policy Economics and Values Human Health and Development	Copper Remediation Car Exhaust Forest Ecosystem	Mardi Gras: Made in China movie
7	Water	Freshwater Oceans Wastewater (15.3)	Water Quality	Sao Paulo, Brazil; Water Crisis Water Wars & Blue Gold Bottled Water Case Study
8	Land Use & Food Security	Land Use Agriculture	Project Farming Issues Pollinatarium City Development	History of Farming Brazilian Agriculture; Cerrado Case Study

Lab Information:

The following are details about the possible labs you will do during the semester. The schedule is posted on Cobra for your class, and your instructor will announce what lab you will do, what materials you may require, and where you should be at what time. You are required to be on site for field trips.

OC= on the Parkland campus; meet in the lab

FT= Field trip; meet at tour location 30 minutes after your lab begins

AH= At home; lab may be on computer, self-guided tour, or other at-home exercise

Lab	Medium	Requirements	Location
Science	OC or AH	Wear long pants, long sleeves, covered shoes, safety glasses/ goggles, gloves	L124 if OC
Monarchs	OC	Be prepared to go outside and work with caterpillars	L124
Prairie/ Biodiversity	OC	Be prepared to go outside, especially wear covered shoes, bring work gloves if you have them	L124
Restoration	OC	Be prepared to go outside, especially wear covered shoes, bring work gloves if you have them	L124
Natural Selection	OC or AH		L124 if OC
Energy Audit	OC		L124
MTD	FT	Be prepared to go outside	1101 East University Avenue, Urbana http://goo.gl/maps/xpBW0
Alternative Shopping	OC or AH	If AH, you will need to go to a grocery store	L124 if OC
IDEA Store	FT		28 E. Springfield Avenue, 2nd Floor (handicap access at the rear of the building), Champaign https://goo.gl/maps/1HY61
UIUC Materials Recovery	FT	Be prepared to go outside	1 St. Mary's Rd, Champaign http://g.co/maps/53cbg
Carbon Games	OC or AH		L124 if OC
Wastewater Treatment	FT	Be prepared to go outside	2404 S. Rising, Champaign http://mapq.st/sYTVJL
Water Quality	OC or AH	Wear long pants, long sleeves, covered shoes, safety glasses/ goggles, gloves	L124 if OC

Lab	Medium	Requirements	Location
Forest Ecosystem	OC or AH	Be prepared to go outside	Busey Woods http://goo.gl/maps/jKqli OR Parkland
Copper Remediation	OC	Wear long pants, long sleeves, covered shoes, safety glasses/ goggles, gloves	L124
Car Exhaust	OC	Wear long pants, long sleeves, covered shoes, safety glasses/ goggles, gloves	L124
Pollinarium	FT		606 West Windsor Road, Urbana http://g.co/maps/dfjt
Farming Issues	OC or AH	Wear long pants, long sleeves, covered shoes, safety glasses/ goggles, gloves	L124 if OC
City Development	OC		L124