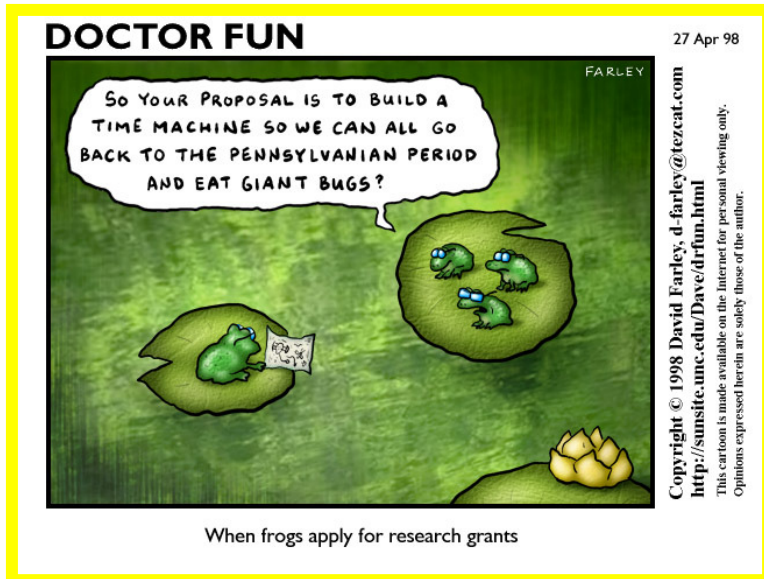


ECOLOGY Spring 2009

COURSE DESCRIPTION:



Ecology constitutes an upper-level biology course dedicated to discovering the abiotic and biotic mechanisms determining distribution & abundance of different species in the natural world. We will cover a wide-range of topics from species interactions to community dynamics and ecosystem processes. Most importantly, we will discuss and engage in how the scientific discipline of ecology fits into the larger issues of basic research, conservation practices and environmental issues.

Experimentation exists at the core of ecology. This semester, Ecology itself will experiment in teaching. In this context, we will strive to achieve 4 outcomes:

- 1) Provide students with “real-life, hands-on” field research by setting all laboratory work within the local San Gabriel River.
- 2) Create a practicum experience for data analysis, scientific writing and presentation to results to multiple audiences.
- 3) Integrate ideas of civic engagement with upper-level biology courses.
- 4) Engage in the primary literature within ecology.

A grant from 3M and the San Gabriel River Trail Project and cooperation with The Office of Civic Engagement has made this experimental laboratory possible.

BIO50-434-01 SYLLABUS

Lecture Tuesday/Thursday 1:00 – 2:15 p.m. FJSH 148; Lab Thursday 2:30 – 5:30 FJSH 212

Faculty: Dr. Romi Burks, Assistant Professor of Biology

Office/Lab: FJSH 141/145; Phone: 863-1280 or 512-869-8098 (no calls after 9pm please)

Office Hours: Mondays 10-12; Tuesdays 3-4 and as needed

Email: burksr@southwestern.edu; Sakai site: sakai.nitle.org (Ecology 434 1 Sp09)



TAKE HOME MESSAGES:

- 1) This course has been based on a proposal and planned with the experience of the instructor. However, because we will engage in "real" science, flexibility and improvisation will be expected and probably the norm.
- 2) STUDENTS WILL BE EXPECTED TO WORK OUTSIDE IN MOST WEATHER.
- 3) Students used to not engaging in class on a regular basis should know that option does not exist in this round of Ecology.
- 4) All students will present work independently but will also work overall as a team.
- 5) STUDENTS SHOULD EXPECT TO SPEND 1-1.5 HOURS OUTSIDE OF CLASS FOR EVERY HOUR IN CLASS INCLUDING THE LAB (6 HOURS/WEEK IN CLASS = 6-9 HOURS OUT OF CLASS = 12-15 TOTAL). STUDENTS WILL KEEP A LOG TO ASSURE THAT THEY DO NOT FALL UNDER OR EXCEED THIS RANGE.

Summary of workload:

1. Each student will contribute to writing 2 chapter quizzes in the semester.
2. Each student will read the chapter from the textbook and "take" 10 out of 12 weekly chapter quizzes and/or problem sets (note – no exams).
3. Each student will keep a log of Ecology that s/he submits in 2 week periods.
4. Each student will identify 1 primary literature paper related to STREAM/WETLAND ECOLOGY to use as the basis for a portfolio that includes searching, abstract compare/contrast, presentation and critique.
5. Each student will provide a 1-page (more or less) proposal for a "hands-on" activity to engage elementary students in ecology.
6. Each student will work as part of a team in a Civic Engagement exercise designed to gather information on 2 branches of the San Gabriel River and their confluence. Each team will describe their site, sample weekly and create a protocol for a in-stream experiment.
7. Each student will contribute to the synthesis of the lab through data analysis, presentation and a written report.
8. For the final synthesis, each student will compose a 5-page essay (topic given).

If you have hesitations about the five take home messages and/or the workload described above, I urge you to come and speak with me and/or consider choosing an alternate course. A version of Ecology will be offered in a more traditional form in Spring 2010.

GENERAL COURSE GOALS: By the end of the course, students should be

1. Experienced in the concepts of experimental design, data collection and analysis;
2. Skilled at reading primary literature;
3. More comfortable about contributing to class, directing discussions, and presenting information in a public forum;
4. Knowledgeable about certain species interactions;
5. Capable of contributing to debates about ecology behind global climate change, exotic species, or other controversial issues; and
6. Aware of steps being taken to preserve natural resources;

ENGAGEMENT: As addressed above, students in Ecology are expected to be actively engaged with the material. Many of the concepts may be familiar; however, understanding the mechanism(s) behind these familiar concepts will take much more time than expected. Please do not underestimate the time it takes to prepare for class. Learning about ecology involves learning how to ask questions. Students will acquire this skill both in the classroom as well as through hands-on experimentation in the lab.

PARTICIPATION: Regular class participation is the default circumstance for students in upper level Biology courses. Class participation involves discussing primary literature, posing questions about class materials, working effectively in groups, engaging in lab and maintaining a positive attitude towards field work.

Outstanding	Particularly noteworthy class participation will grant you a 1% benefit of the doubt at final grade time. In other words an 89% B+ would end up as a 90% A-.
Acceptable	Regular class participation assures course standing (no change)
Below Average	Less than frequent class participation/poor attendance lowers your grade by ½ letter (i.e. B+ = B)
Unacceptable	Number of unexcused absences (more than 3 lectures or 2 lab periods) or extreme lack of participation will result in course failure. I will notify you of your status at midterm and through feedback on bi-weekly logs. If I have any serious concerns, I will bring them to your attention immediately. If you are otherwise curious, please inquire at any time.

TEXTS: One required text exists for this course along materials available via Sakai. The text is the most up to date available. I consider it a little pricey but it mirrors other texts. However, if you read Cain et al. (2008) an average of 2-hours a week, then you only pay around \$4-5 a week – less than the price of a movie ticket for even more entertainment. ☺ I do not have a problem with students sharing texts along as the reading is completed.

REQUIRED: Cain et al. 2008. *Ecology*. Sinauer Publications. 978-0-87893-083-8; List price: \$107.95. This book also provides a companion website (www.sinauer.com/ecology) that we will use. The *Ecology* companion website features review and study tools to help students master the material presented in the ecology course.

LAB TEXT PROVIDED: Lamberti & Hauer. 2008. *Methods in Stream Ecology*. 2nd edition. Wiley Publications.

Minimum A = 925 Points	Minimum A - = 895 Points	Minimum B+ = 875 Points
Minimum B = 825 Points	Minimum B- = 795 Points	Minimum C+ = 775 Points
Minimum C = 725 Points	Minimum C- = 695 Points	Minimum D+ = 675 Points
Minimum D = 625 Points	Minimum D- = 595 Points	Below 595 = F

Grades do not occur on a curve. **What you earn will be what you will receive, although grades may be modified by participation or enrichment as defined here.** You can choose to “enrich” your grade by reflecting on department seminars or the Brown Symposium (2 pts) or providing a brief review of recent “Econuggets” in the popular press (1 pt). Submit all enrichment to Dr. Burks via email. Enrichment limits equal 1.5% of your grade (15 points).

Date Due	COURSE COMPONENT	# COUNT	VALUE	TOTAL POINTS	% GRADE
Lecture Portion: Group					10
AREA 1: Create Chpt Quizzes		2	50	100	10
Lecture Portion: Individual					40
AREA 2: Writing Portfolio				200	20
1 wk before	Search & Citation	1	50		5
ClassDay	Abstract Contrast	1	50		5
Th Class	10-min Review	1	50		5
1 wk after	Literature Critique	1	50		5
AREA 1: Quizzes OR Problem Sets* (at least 3 each)					10
Tuesdays	Sakai Quizzes (10)	5	10	50	5
Tuesdays	Problem Sets (20)	5	10	50	5

AREA 3: LAB					
Laboratory Portion: Group					35
TBD	Webpage/Education	1	50	50	5
2/5	Protocol Development	1	100	100	10
4/24	Data Analysis	1	100	100	10
4/28-4/30	Public Presentation	1	50	50	5
4/28-4/30	Final Report	1	50	50	5
Laboratory Portion: Individual					15
1/29; 2 wks	Biweekly Eco-LOG	6	15	100	10
2/26	Educational Ideas	1	50	50	5

AREA 4: SYNTHESIS – DUE 5/4 Final Exam Question/Paper		1	100	100	10
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Total Overall Points		1000	100%
Viewed	Individually Earned	550	55%
As	Group Grades	450	45%
Or	Lab	500	50%
As	Lecture	500	50%

Syllabus Philosophy: This document should act like an owner's manual for a car. At least read through it once and then keep it available for reference. More or less, everything that you need to know about the course you should be able to find in this document. Additional materials will be posted on Sakai.

COURSE COMPONENTS:

AREA 1: Group Quiz Creation/Summaries 2 x 50 pts = 100 pts (10%)

Cain et al. (2008) covers the general concepts in ecology with a lot of general information. Learning to recognize important concepts, trends, terms, and processes represents a key skill for students. To address this, groups of students will design an appropriate quiz (10 points) that includes the following:

1. Vocabulary – 5 key words that the group finds critical to understanding (2.5 points)
2. Key People/Concepts – 5 “pioneers” in the field of ecology and their contributions (2.5 points; questions can be done in variety of ways)
3. Connect the dots – one question that asks students to connect the material in this chapter with another concept (2 points)
4. Key Figure – pick one of the figures from the text and create a “thinking” question that requires interpretation and context/implication (3 points)

More Important Details:

1. Groups will be made up of 3-4 people and will stay the same for both quiz creations.
2. Send quizzes as e-mail attachments.
3. Quizzes are due to Dr. Burks by 9 p.m. on Sunday before the Tuesday lecture.
4. They will then be reviewed and returned by Monday at noon.
5. **STUDENTS WILL THEN MAKE THE QUIZ AVAILABLE BY 7 pm Monday night.**
 - a. Note it will take you approximately 15-20 minutes to post.
 - b. **See separate instructions posted on Sakai.**
 - c. **TEAMS WILL ALSO POST A PDF OF THE QUIZ AS A BACKUP.**
6. **In the attachment to Dr. Burks, quiz creations should be accompanied by:**
 - a. **A brief rationale for why the group wrote the particular questions and**
 - b. **An answer key scaled for grading (i.e. how to award points, partial credit)**
7. Questions should not be obscure, but at the same time questions need to evaluate how well students read the chapter.
8. On the day of lecture, groups should also provide each student with a copy of a study guide for the chapter.
9. Dr. Burks will provide Quiz 1 and Quiz 2 so students have examples from which to work.
10. **GROUPS HAVE UNTIL CLASS THURSDAY TO “GRADE” SUBMITTED QUIZZES.**
 - a. **See separate instructions posted on Sakai.**
 - b. **Include rationale when not awarding full points.**

TENTATIVE QUIZ GROUPS:

LECTURE QUIZ GROUP A: Trawick, Manusov, Odum, Peck
 LECTURE QUIZ GROUP B: Jones, Henderson, Giuffre
 LECTURE QUIZ GROUP C: Leerberg, Stanzer, Steele, Del Real
 LECTURE QUIZ GROUP D: Ford, Christian, Bergfield
 LECTURE QUIZ GROUP E: Jackson, Creasy, Lemley and Roman

Note: Feel free to use the materials provided on the Ecology Companion Site (<http://www.sinauer.com/ecology/index.html>) to create your materials. However, the questions should be in your own words and the review sheet that you provide should be informative from your viewpoint.

Grading:

Each student in the group will receive the same number of points. Up to 10 points will be awarded for:

1. Original quiz submission in terms of clarity, following guidelines and rationale
2. Choice of questions for quiz (i.e. is material adequately covered but not too detailed?)
3. Accuracy of posted version (this should be 10/10)
4. Completeness of answer key and feedback provided to students when grading
5. Provision of adequate study guide

Quizzes will be graded by the Quiz Team by class on Thursday.

AREA 1: Chapter Quizzes and/or Problem Sets 10 x 10 pts = 100 pts (10%)

Ecology involves a weekly quiz and/or a problem set component to encourage students to keep up-to-date and to engage in the material. **The structure replaces traditional exams.**

1. Students should have completed quizzes by class time of Tuesday lecture using Sakai.
2. The Honor Code Applies (and to quiz-writing students not to share the questions).
3. **Quizzes should be available by 7 p.m. on Monday night before class.**
4. Students cannot "take" quizzes that they wrote.
5. Besides the "chapter" quiz written by peers, students also have the option to answer a problem set provided on the Ecology Companion Site
 - a. Problem sets should be submitted via Drop Box with a notification to Instructor
 - b. Problem sets can be found: <http://www.sinauer.com/ecology/index.html>
6. **At least 3 of each type must be completed.**
7. *Therefore, students will ultimately have 4 options each week: (top 10 of 12 submitted)*
 - a. Create the quiz
 - b. Complete the quiz or
 - c. Complete a problem set (which will be graded by Dr. Burks)
 - d. Skip the week. 12 opportunities (besides the quizzes that the team writes) occur.

Note – if this process fails, then Dr. Burks reserves the right to write all the quizzes

AREA 2: Ecology Writing Portfolio	4 assignments = 200 pts (20%)
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In this semester of Ecology, students will build a small portfolio of skills related to scientific writing. YOU WILL CHOOSE PAPERS FOCUSED IN THE AREA OF STREAM AND/OR WETLAND ECOLOGY TO ENRICH YOUR KNOWLEDGE OF THIS FIELD FOR THE LAB. This combination of assignments should build on the skills that you learned in either Methods in Ecology and Evolution or Research Methods for Psychology/Animal Behavior. Each of the assignments holds equal weight of 50 points or 5% of your total grade.

Part 1: SEARCH AND CITATION - Due 1 week prior to your sign-up date 50 pts (5%)

- Timeliness, clarity, topic description 10 points
- Search documentation 10 points
 - Databases, keywords, hits
- Identification: 10 points
 - Narrowing down process or how did you identify the best one
 - Key words, title, journal, specific topic
- Full proper citation in *Ecology* format (see handout on Sakai) 10 points
- Choice of paper 10 points

NOTE – You should primarily use only titles for narrow down your search. You can quickly scan the abstract when needed to determine that the experiential nature of the paper. Once you have found the paper that you think you want to read, email the abstract and the PDF file (if possible) to Dr. Burks and wait for approval ---but DO NOT READ THE ABSTRACT CLOSELY. Dr. Burks will post abstracts on Sakai for others to read prior to the presentation day.

Part 2: ABSTRACT CONTRAST - Due on Day of Presentation 50 pts (5%)

After you receive approval from Dr. Burks, you can proceed to read the paper sans (without) the abstract. Your second assignment asks that you then write an abstract based on your understanding of the paper and compare and contrast it with the actual paper.

- Abstract content 15 points
 - Context, what they did, how they did it, what they found & why important
- Connection to class material 15 points
 - Summary of how article fits in with the material that we have covered in class
- Compare and contrast 15 points
 - Compare content and style of the two abstracts
- Style (~3 pages, double spaced; abstract = 250 words; active) 5 points

Part 3: CLASS REVIEW - Due on Day of Presentation **50 pts (5%)**

Each student will have 10-15 minutes to review their chosen paper before the class. No set format exists for this part as long as the student covers the 4 main topics outlined here:

- Abstract evaluation 10 points
 - Ratings: presenter vs. class
 - Compare and contrast
- Description of question, hypothesis and experimental design 10 points
 - Outline to understand results
- Discussion of key result --- represented in a figure 10 points
 - Highlights statistics
- Connections to class – how does it fit in with course material? 10 points
- Presentation style (prepared, tone, pace, class interaction) 10 points

Part 4: PRIMARY LITERATURE CRITIQUE - Due 1 WEEK AFTER CLASS **50 pts (5%)**

Using the class discussion as background along with close reading of the article, each student will write a formal critique of the primary literature paper that they presented to the class. Make sure that the critiques contain active voice and proofread. Each critique should be specific in its evaluation and follow this format:

- Provides context and identifies Take Home Message in beginning 5 points
- Re-iterates main question of paper with hypotheses and justification for expectations 10 points
- Quick review of methods and then recap of important results 10 points
 - Specific reference to statistical significance and figures
- Justification regarding choice of most important figure 5 points
 - Highlights statistics
- Discussion of 3 main strengths and weaknesses 10 points
- Ends with remaining questions and ideas for future research 10 points

AREA 3: San Gabriel River Trail Project (Lab)	= 500 pts (50%)
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Project Summary***At the Confluence: Using the intersection of the North and South branches of the San Gabriel River to connect learning and civic engagement***

Southwestern University occurs conveniently near San Gabriel Park. The two forks of the San Gabriel River, the North and South Branches, meet within the park. Although these two rivers become one at their confluence, each branch brings its own influence to the lower reaches of the river. The North Branch of the San Gabriel River fluctuates based on water management decisions from Lake Georgetown while the South Branch shows a more natural fluctuation. Although the United States Geological Survey maintains a gauge that monitors stream flow, very little other accessible biological information exists. The San Gabriel runs rights through the park and alongside the Hike and Bike Trail. This site also provides an accessible location for field research by Biology students. We will assess the diversity and health of the two branches of the San Gabriel River. Our findings will be shared in educational formats that can be used by the City of Georgetown. In addition, students within the lab will demonstrate sampling techniques to two groups of students in the Extended School Enrichment Programs at Williams and Cooper Elementary Schools within the Georgetown Independent School District.

Goals of Project: The goals of this project can be divided into 3 areas: social, pedagogical and biological.

In terms of social goals, this proposal seeks to:

1. Create a civic engagement project for upper-level biology students;
2. Link Southwestern University students more with local habitats;
3. Involve elementary school students in the study of a local stream; &
4. Provide educational materials to the City of Georgetown.

In terms of pedagogical goals, my objectives include:

1. Intentionally connecting lecture and laboratory material;
2. Developing a new hands-on laboratory to engage students; and
3. Teaching students the importance of clear communication skills through development of written educational materials and an oral presentation to appropriate staff from the City of Georgetown.

In terms of biological research goals, I want this project to:

1. Compare and contrast 3 sections of the San Gabriel River;
2. Yield data that can be statistically analyzed; and
3. Teach students a number of research techniques and skills.

The class will be divided into 3 teams comprised of 5- 6 students (a North Branch team, a South Branch team and a Confluence team). Capstone student (Alonzo Thomas) will serve as lab TA

and will help direct one of the major projects. On Thursdays, we will meet in the lab to “Gear Up” and then be at the stream site by 3:00 pm at the latest.

TEAM REQUIREMENTS

350 pts (35%)

In addition to describing their site, each team will also be responsible for 1 “experiment”

1. Colonization: aquatic invertebrates (North Team)
2. Resource and nutrients: Mayfly Growth (South Team)
3. Discharge/Landscape/Big Picture (Confluence Team)

Project Participants (list or briefly describe who will participate in the project)

	Student	Email	Class	Phone
	Thomas, Alonzo	thomasa@southwestern.edu	Senior TA	
1	Bergfield, Alana N.	bergfiea@southwestern.edu	Senior	
2	Christian, Leah E.	christil@southwestern.edu	Senior	
3	Creasy, Caitlin A.	creasyc@southwestern.edu	Junior	
4	Del Real, Janet J.	delrealj@southwestern.edu	Junior	
5	Ford, Brittany J.	fordb@southwestern.edu	Senior	
6	Giuffre, Giulia M.	giuffreg@southwestern.edu	Junior	
7	Henderson, Stephanie L.	henderss@southwestern.edu	Sophomore	
8	Jackson, Ashley V.	jackson2@southwestern.edu	Junior	
9	Jones, Taylor A.	jonest@southwestern.edu	Senior	
10	Leerberg, Dena M.	leerberd@southwestern.edu	Junior	
11	Lemley, Regan J.	lemleyr@southwestern.edu	Sophomore	
12	Manusov, Scott A.	manusovs@southwestern.edu	Senior	
13	Odom, Kayla D.	odomk@southwestern.edu	Sophomore	
14	Peck, Miranda H.	peckm@southwestern.edu	Junior	
15	Stanzer, Olivia D.	stanzero@southwestern.edu	Junior	
16	Steele, Taylor J.	steelet@southwestern.edu	Sophomore	
17	Trawick, Matthew K.	trawickm@southwestern.edu	Junior	
18	Roman, Alex	romanwea@southwestern.edu	Senior	

NOTE: Specific guidelines for assessment of these activities are still being developed but will be provide to students at least a week before any deadlines.

Methods Protocols (DUE 2/5):

100 points (10%)

Using *Methods in Stream Ecology* (2nd edition by Lamberti and Hauer), each team of ecology students will develop a protocol for the experimental responsibility in addition to an assigned part of the general sampling scheme (i.e. nutrients, chlorophyll, abiotic conditions, basic biodiversity, in-stream sediment structure, landscape assessment, etc...). Because each experiment will be executed within all three sites, written protocols must be very detailed and include step by step instructions. Each team will work with Dr. Burks and TA Alonzo Thomas to develop such methods. Protocols should also include a list of relevant primary literature consulted.

Data Analysis (DUE 4/24): 100 points (10%)

Each team of ecology students will compile their data analysis for review before creating oral or written community presentations. Data analysis should include a summary of the question being asked, the null hypothesis, the alternative expectation, statistical test used and then an annotated copy of the statistical analysis using SPSS. In addition, this preliminary data analysis should include the team's choice of draft figures for discussion (i.e. do not have to be formatted perfectly) and a bulleted list of results with statistical evidence.

Community Presentations (DRAFT DUE 4/28; GIVEN ON 4/30): 50 points (5%)

Each team of ecology students will create an oral presentation about their findings regarding the biological integrity of the San Gabriel River within the park and also any important differences discovered between these two branches. We will invite several individuals from the City of Georgetown to this presentation.

Written Reports: (FINAL DUE 4/28; REVISED FOR DISTRIBUTION 4/30): 50 points (5%)

Each team of ecology students will write a report about their findings regarding in language amendable to the general public but without any exclusion of the science. These reports will be presented to Kimberly Garrett.

Educational Materials: 50 points (5%)

As part of the exercise in Civic Engagement, each team of ecology students will create a webpage that will provide basic educational materials to the community. Each team will also furnish the materials that they would like to include in the permanent display.

INDIVIDUAL REQUIREMENTS 150 pts (15%)**ECOLOGY LOG: 100 points (10%)**

Each student will submit a log every 2 weeks that will give credit for participation, track hours spent on the course, keep Dr. Burks up-to-date with group dynamics and individual contributions. Each log entry should earn students 15 points for completion. Each student automatically receives an additional 10 points for general participation.

A basic log format page will be available on Sakai and Logs should be submitted under the Assignments Section in Sakai.

Logs are due on Friday at 5 p.m. on these dates:

1/30, 2/13, 2/27, 3/13, 4/3 and 4/16

Submit under Assignments in Sakai

INDIVIDUAL IDEAS FOR EDUCATION STATIONS:**50 pts (50%)****Due: 2/26**

On two Thursdays in which we sample (3/26 and 4/2), we will invite around 40 students from local GISD schools. Ecology students will develop 8, 10-minute educational stations through which the elementary students will rotate. Each student will submit their own idea and we will vote on the best eight. General ideas could include:

- "What are algae really? A microscopic look"
- "Can you name this bug?" or
- "How fast does the water go?"
- "Is it okay for animals to drink the water?"

AREA 4: Synthesis**= 100 pts (10%)**

The final paper (~5 pages double spaced not including citations) asks:

How did you find the class and the lab experience integrated?

Justify your answer with a minimum of 5 specific examples and integrating a minimum of 5 primary literature (TAKEN FROM THOSE PRESENTED BY PEERS). 1-2 pages of your final paper should provide evaluation regarding the Civic Engagement aspect of the course and answer these ?s (paragraph form preferred – just refer to question in parentheses):

1. Did community-based learning project help me understand the concepts of the course? In comparison to classes without a community-based learning component, rate your experience.
2. What can you learn through a community-based learning course that you cannot learn through other assignments?
3. How did community-based learning project match with this course's objectives? How did the project illustrate theory?
4. What lessons did you learn from the community that you brought back to the class?
5. If you had to take this course again, what would you keep the same or do differently?
6. What were your expectations? How did this experience meet your expectations?
7. Did you see the point of focusing on one site and did it help you learn the material? Did it get monotonous or repetitive?

Grading:

This paper will be assessed on a 1-20 rank system with each higher rank earning 5 points. Higher ranked papers will provide better arguments backed by evidence, either as examples or citations. Higher ranked papers will also adequately evaluate the field

experience and its Civic Engagement focus. Higher ranked papers will also be well written in active voice, proofread and free of any grammatical errors.

Student "Bill of Rights" (Expectations for Ecology)

- Each student can expect access to the PP presentations prior to class. (see Sakai)
- Each student can expect class to begin on time.
- Each student can expect that I will alternatives for any schedule conflicts.
- **Each student can expect to have one "Bad Day" in which they can request a "Had A Bad Day Pass" that grants them up to a 3-day extension on any assignment that does not affect others.**
- **Each student can expect to spend at least 1 – 1.5 hours reading or studying out of class for every hour in class including lab.**
- Each student can expect to improve their writing & presentation skills.
- Each student can expect a classroom environment conducive to their learning. If this is not the case, see me immediately.
- Each student can expect that I will be attentive to their needs and flexible if excused absences (illness, sports, etc.) occur.

Professor and Course Expectations of Students:

- Every student will be **on time** to class. This means seated and ready to engage when the class begins. The on-time policy is necessary to maximize the learning potential of the classroom.
- I expect that students will have read and taken notes on the assigned reading before we cover this material in class.
- I also expect that you will go back and **re-read** assigned chapters and review your class notes within 1-2 days of being given.
- **ECOLOGY expects that you will be responsible for your own mastery of the material.** If you have questions about concepts presented in the text or lectures, it is your responsibility to find the answers to questions or seek my help.
- I expect that students will provide adequate warning if they are going to miss a class for legitimate academic circumstances. It is the student's responsibility to review the class material and ask questions.
- I expect the classroom environment to have a relaxed atmosphere where students can feel free to express opinions or ask questions.
- Students must respect other people's opinions even if they differ from theirs.
- I expect that students will take some time to reflect on what they are learning.

TEXT & PRIMARY LIT CRITICAL READING GUIDELINES:

Whether you will enjoy and learn a great deal from this class is almost entirely up to you and your commitment to reading the course materials and engaging in classroom debate. As a general rule, thoughtful engagement either (a) uses readings as the basis for formulating interesting discussion questions; (b) uses readings as a basis to develop an interesting positive argument of your own; and/or (c) treats an author/work as an opponent worth refuting. I fully

expect you to engage the works that we encounter in an active dialogue and to be prepared to share your impressions with the class community. **To this end, you will find it useful to keep careful notes, reactions, outline arguments, etc...before you write your critiques**

OTHER POLICIES:

- **OPEN COMMUNICATION**
 - Students are expected to discuss questions and areas of concern with me.
- **EMAIL**
 - I will frequently e-mail to remind you of deadlines or to clarify points from a lecture. **Please check your e-mail daily.**
- **ATTENDANCE**
 - Students are expected to prepare for and attend each class meeting.
 - **More importantly than just attendance, lack of preparation for class will diminish your capacity to fully engage in the intellectual pursuits of class.**
- **TIMELINESS**
 - **Arrive to class ON TIME. Anything less is disrespectful to me and your peers.**
- **FIELD WORK**
 - **Be prepared to get wet & dirty on field days.**
- **DROP DATES:**
 - **2/16 without record entry or 3/30 for W.**
- **LATE PAPERS**
 - Assignments are due at the beginning of the class period. If you forget to bring an assignment, you have 20 minutes after class in which to obtain it – otherwise the assignment is late. Late assignments are subject to a 20% penalty per day. **The best advice is to turn in your work on time.**
- **HONOR CODE**
 - **Academic Dishonesty:** All course work is to be done independently. We are all very fortunate to have the Honor System here at Southwestern. In general, professors establish ground rules for acceptable collaboration or rules for exams, and students follow those rules.
 - You must **write out** and sign the *honor pledge* on all individual work to be graded. The wording is as follows:
 - **"I have acted with honesty and integrity in producing this work and am unaware of anyone who has not."**
 - If you are unclear on the concept of plagiarism or cannot sign the honor code in good faith, please see Me. When in doubt, paraphrase and cite using Name and Year methods (Burks 2003). Any perceived impropriety will be discussed with the student and then the appropriate action pursued.
- **ACCOMMODATIONS**
 - Southwestern University will make reasonable accommodations for persons with documents disabilities. Students should provide documentation and schedule an appointment with the Academic Services Coordinator (Kimele Carter at x1536 or carterk@southwestern.edu in the 3rd floor Cullen) **immediately.**

- **GROUP WORK**
 - All students are expected to contribute equally to group projects.
- **FOOD/DRINK**
 - I do not mind if we "snack" in class as long as it is not disruptive.

20 Tangential Tidbits about me:

1. Value directness; Honest natured
2. Think time is the most valuable commodity
3. I'm impatient
4. Sometimes accompanied by pseudochildren Twinkie and Cupcake
5. I love statistics and probably go a little overboard
6. My undergraduate Ecology course is what gave me direction in my own career
7. Pet peeves for writing include incorrect representation of genus and species and not knowing the difference between affect (verb) and effect (noun) or since (implies time) and because (implies reason).
8. Bit of a sarcastic nature (i.e. don't take it personally)
9. New Year's Resolution is to stick with a gym routine (Mon 8am; Wed 5; Th 6; Sat 9:30).
10. Very flexible in meeting with students and needs
11. I need to go back to Aqua Fitness Tuesday/Thursday mornings at 6 a.m.
12. Somewhat of a workaholic
13. Just got back from the National Science Foundation and a review board
14. Love and collect dragonflies
15. Started new snail collection
16. Favorite take out food = sushi
17. My new hobby is learning about chocolate
- 18.** Have new research collaborations in Uruguay
- 19.** I really ONLY like pepperoni pizza (and this other really strange one we had in UR)
- 20. I love what I do**



TENTATIVE ECOLOGY LABORATORY SCHEDULE: THURSDAYS 2:30 – 5:30 p.m.					
WK	DATE	LOCATION	TOPIC	EXPERIMENT GOING	DUE
1	1/15	Lab 212	Stream Ecology Scavenger Hunt	Colin & Alonzo direct	
2	1/22	Start 212 then San Gabriel	Site evaluation – check out the two branches and confluence	4 pm – meet with local partners	
3	1/29	San Gabriel	Basic Methods Day – Team Organization; Begin determining protocols for weekly sampling and 3 projects		Ecology Log 1
4	2/5	No lab/sampling this week: Go to Brown Symposium			--- Protocols DUE
5	2/12	San Gabriel	Sampling Time 1	Set out Colonization	Ecology Log 2
6	2/19	San Gabriel	Sampling Time 2	Discharge and Sediment 1 Gather Mayflies	
7	2/26	San Gabriel	Sampling Time 3	Mayfly Growth starts	Ecology Log 3 Education Ideas
8	3/5	Lab sampling occurs on <u>Tuesday</u> during class this week. No class or lab on Thursday.			
9	3/12	San Gabriel	Sampling Time 4	Harvest mayflies	Ecology Log 4
10	3/19	No lab/sampling this week: Spring Break			
11	3/26	San Gabriel	Sampling Time 5	Education Day 1	
12	4/2	San Gabriel	Sampling Time 6	Education Day 2	Ecology Log 5
13	4/9	San Gabriel	Final Sampling Time 7	Discharge and Sediment 2 Harvest last colonization	
14	4/16	San Gabriel Lab 212	General working time		Ecology Log 6
15	4/23	TBD	Data analysis	Bullet summary of analysis, annotated output and draft figures due 4/24	
16	4/30	TBD	Community Presentation	Drafts of paper and presentation due 4/28	

TENTATIVE ECOLOGY LECTURE SCHEDULE: TUES & THURS 1:00 – 2:15 p.m.							
WK	DATE	DAY	TOPIC	READING	PPT	DUE	
1	1/13	Tuesday	Dr. Burks serving on a National Science Foundation Panel for International Research Experiences for Students (IRES). Colin Kyle to go over syllabus & explain Abstract Assignment				
1	1/15	Thursday	Start Abstract Review	Syllabus – Complete Sakai Assignment		Partner Abstracts	
2	1/20	Tuesday	Abstracts Continued	Cain Chapters 2/3		Quiz 1 – Chpts 2&3	
2	1/22	Thursday	Catch-up Day, Review Quiz, Review Plans, Writing Topics Due, Class Combined with Lab				
3	1/27	Tuesday	Environmental Variation	Cain Chapters 4/5	EnvironEco09.ppt/pdf	Quiz 2 - Chpts 4&5	
3	1/29	Thursday	EV continued			LitReview 1	
4	2/3	Tuesday	Evolution and Ecology	Cain Chapter 6	EvolutionEco09.ppt/pdf	Quiz 3 – Chapter 6 GROUP A	
4	2/5	Thursday	No class today: Go to Brown Symposium				
5	2/10	Tuesday	Population 1	Cain Chapters 7/8	Pop1Eco09.ppt/pdf	Quiz 4 – Chapter 7/8; GROUP B	
5	2/12	Thursday	Population cont...(2)	Cain Chapter 9	Pop2Eco09.ppt/pdf	LitReview 2 & 3	
6	2/17	Tuesday	Population cont... (3)	Cain Chapter 10	Pop3Eco09.ppt/pdf	QUIZ 5 – Chapter 10 GROUP C	
6	2/19	Thursday	Review Population			LitReview 4, 5, 6	
7	2/24	Tuesday	Competition 1	Cain Chapter 11	Comp1Eco09.ppt/pdf	QUIZ6 –Chapter 11 GROUP D	
7	2/26	Thursday	Competition continued			LitReview 7, 8	

WK	DATE	DAY	TOPIC	READING	PPT	DUE
8	3/3	Tuesday	Substitute class – routine sampling at San Gabriel			
8	3/5	Thursday	Decompression --- no class or lab. Dr. Burks at the Texas Academy of Sciences meeting			
9	3/10	Tuesday	Predation and Herbivory	Cain Chapter 12	Pred1Eco09.ppt/pdf	QUIZ7 –Chapter 12 GROUP E
9	3/12	Thursday	Predation continued...			Review 9, 10, 11
10	3/17	Tuesday	No Class or Sampling SPRING BREAK			
10	3/19	Thursday				
11	3/24	Tuesday	Parasitism and Mutualism	Cain Chapters 13/14	IsmsEco09.ppt/pdf	QUIZ8 –Chapters 13/14; GROUP D
11	3/26	Thursday	Nature of Community Ecology	Cain 15	Comm1Eco09.ppt/pdf	Reviews 12, 13, 14
12	3/31	Tuesday	Biogeography and Species Diversity	Cain Chapters 17/18	DiversityEco09.ppt	QUIZ9 –Chapter 17/18; GROUP E
12	4/2	Thursday	Production/Food Webs	Cain Chapters 19/20	TrophicEco09.ppt	Reviews 15, 16
13	4/7	Tuesday	Nutrient Cycling	Cain Chapter 21		QUIZ10 –Chapter 21; GROUP C
13	4/9	Thursday	Conservation Ecology	Cain Chapter 22	ConBioEco09.ppt	Review 17, 18

WK	DATE	DAY	TOPIC	READING	PPT	DUE	
14	4/14	Tuesday	Landscape Ecology	Cain Chapter 23	LandscapeEco09.ppt	QUIZ11–Chapter 23 GROUP B	
14	4/16	Thursday	Work Time: Class Combined with Lab				
15	4/21	Tuesday	Global Ecology	Cain Chapter 24	GlobalEco09.ppt	QUIZ12–Chapter 24 GROUP A	
15	4/23	Thursday	Work Time: Class Combined with Lab – all Ecology Writing Portfolio material due				
16	4/28	Tuesday	Catch up on anything			Course evaluations	
16	4/30	Thursday	Go Time: Presentation Day for San Gabriel River Trail Project				
	5/4	9 am	Synthesis Papers Due				

I, _____, have read the Ecology syllabus & acknowledge its contents.

Furthermore, I specifically confirm that:

- The syllabus was reviewed in class and the expectations for my success in Ecology are abundantly clear.
- I asked all the questions I had about the syllabus at this time. I will **first** consult the syllabus and/or lab handouts when I have a question about an assignment. If the answer is not to be found, then I will ask.
- Guidelines for critiques are understood.
- I understand the option of “having a bad day” and know that it is not eligible for presentations unless other arrangements have been made.
- I am aware that I need to pay attention to due date for identifying my paper and documenting my search, writing the replacement abstract and preparing my class preparation and then providing full critiques (see Table next page).

SCHEDULE and SIGN-UP for Ecology Writing Portfolios

SIGN UP BY THURSDAY 1/22/09

Review Number	Student	Topic	PAPER APPROVE (1wkprior)	CLASS REVIEW	ABSTRACT DUE	CRITIQUE DUE (1wkpost)
1	Scott Manusov	Environmental Variability	1/27	1/29	1/29	2/5
2		Population Ecology/Life History	2/5	2/12	2/12	2/19
3		Population Ecology/Life History	2/5	2/12	2/12	2/19
4		Population Dynamics	2/12	2/19	2/19	2/26
5		Population Dynamics	2/12	2/19	2/19	2/26
6		Population Dynamics	2/12	2/19	2/19	2/26
7		Competition	2/19	2/26	2/26	3/5
8		Competition	2/19	2/26	2/26	3/5
9		Predation/Herbivory	3/5	3/12	3/12	3/26
10		Predation/Herbivory	3/5	3/12	3/12	3/26
11		Predation/Herbivory	3/5	3/12	3/12	3/26
12		"Isms" – Para; Mut; Comm	3/19	3/26	3/26	4/2
13		"Isms" – Para; Mut; Comm	3/19	3/26	3/26	4/2
14		"Isms" – Para; Mut; Comm	3/19	3/26	3/26	4/2
15		Biodiversity, Biogeography	3/26	4/2	4/2	4/9
16		Biodiversity, Biogeography	3/26	4/2	4/2	4/9
17		Landscape/Global Ecology	4/2	4/9	4/9	4/16
18		Landscape/Global Ecology	4/2	4/9	4/9	4/16
Presenter critiques due week after presentation.						