

## Principles of Biology: Conservation Biology (Bio 114) Spring 2009 Course Information

Instructor: Ken Prestwich

Office: 108 O' Neil

Office Hours: Monday 4-6 PM

Tuesday 7:15 – 9:15 AM

Wednesday and Friday 3-5 PM

Required

Texts:

*Fundamentals of Conservation Biology*. ML Hunter and J Gibbs. Third Ed. (earlier editions NOT suitable). 2006.

Blackwell Publishers. ISBN: 978140513545

*Life: The Science of Biology. Volume 2: Evolution, Diversity and Ecology*. D. Sadava, HC Heller, GH Orians, WK Purves, & DM Hillis. 8th edition (earlier editions are NOT suitable)

ISBN 978-0-7167-7674-1. VHPS/WH Freeman. Note: Be sure to get volume 2 only – it is a paperback separate of the main hardboard text and is much less expensive.

Course

Website URL:

[http://www.holycross.edu/departments/biology/kprestwi/bioperspectives\\_cnsrv\\_Bio/](http://www.holycross.edu/departments/biology/kprestwi/bioperspectives_cnsrv_Bio/)

We DO NOT use Moodle in this course except as a discussion board – all course materials on the www at the address given immediately above.

General Course Description: Over the history of the earth, a number of great extinction events have occurred. These events are all characterized by extreme reductions in biological diversity. Strong evidence suggests that we are presently in the midst of such an event and this event differs from previous ones (with possibly one exception) in that it is primarily caused by human activity. This course will present a scientific examination of the reasons that biological diversity is presently threatened and it will examine practical approaches to minimize the reduction of diversity.

To appreciate the causes of biodiversity loss and approaches to minimize this loss requires that you must attain a functional literacy in certain areas of biology. These include the causes and measurements of biological diversity, a general understanding of the principles of ecology, the genetics of populations, and the mechanisms of biological evolution. There will be some mathematics in this course -- mathematical approaches are central to much of conservation biology and it will be important to understand these approaches and how they are used. As a bonus, I hope that students will gain a greater facility in a useful skill – reading graphs that display data or that depict various mathematical relationships.

**Grading:** Grades will be determined as follows:

	Points
Project	
Short quiz (to get you used to the exams used in this course)	50 (8%)
Mid-term exams -- two, worth 100 pts. each - second is comprehensive	200 (32%)
Comprehensive Final Exam	175 (28 %)
Nine-page Research Paper	100 (16%)
Poster Summarizing Your Research Paper	40 (6%)
Class Participation (during second half of the course)	65 (10 %)
Total	630

**Grading Scale:** Grades are based on a scale, not a curve. I use the following scale: above 93% = A, 93 to 90% = A-, 89 to 87% = B+, 86 to 83% = B, 82 to 80% = B-, 79 to 77% = B+, 76 to 73% = B, 72 to 70% = C, 69 to 67% = D+ and 66 to 60% = D. Any average below 60% fails. Thus to earn an A in this course you will need at least 605 points ( $650 * 0.93$ ). Similar calculations can be made for other grades. Pass for Pass/Fail requires a 75% average.

**Exams:** I am very concerned that you take something away from this course. The best way to become a good student of conservation biology is to constantly review old material in addition to learning new material. To encourage this, exams (second midterm and final) are comprehensive -- any significant material covered at any time previously may show up on a test. The final exam has a greater proportion of comprehensive material than the other exams (40 to 50%) with the remainder dealing with material since the second midterm exam.

Please do not panic over the comprehensive nature of the exams! Most of the material on each exam will be "new" since the previous exam. I do not have a reputation as an unfair tester -- so, please rest assured that comprehensive questions will not deal with insignificant details. Keep up and review often!

Exams will consist of a mix of essay questions, definitions, fill-ins, multiple choice and, when appropriate, problems.

**Paper:** To give you a bit of ownership of the course material, you will be required to write a nine-page research paper on a topic of your choosing (and my approval). You will receive an information sheet about the paper sometime in the first two weeks of the course; due dates are on the website.

**Make-up Policies:** Any examination may be made up only if a Dean's excuse is submitted -- likewise for later submissions of papers. Excuses may be obtained only in the event of sickness or family emergency.

If you must miss an exam due to participation in a College-sanctioned activity, you must make arrangements with me at least a week prior to the exam. Normally the exam will be taken early and as close as possible to the scheduled time for the rest of the class. I am a former college varsity athlete and while I do understand the additional demands imposed on students who engage in such activities, I also realize that others have demands placed on them and moreover, students are best served when everyone remains on the same schedule. Please understand my position is designed to do the best for the class and frankly for each individual student (in the long run and hopefully the short run).

**Important Notes:** having other exams on the same day or near days does not constitute a valid reason for missing an exam that everyone else takes!

Please do not come and ask me to allow you to take an examination late. **If you are having problems keeping up, go and see the class dean and she or he will inform me and we can work together.** Otherwise, it is important that you view the exam schedule as a commitment associated with this class.

Note that plane tickets etc are not a legitimate excuse to take exams at times different than scheduled.

Failure to take a test as scheduled without a legitimate reason (listed above) will result in a test score of zero.

I apologize for being so legalistic, but the increasing tendency of some individuals to attempt to miss exams for their own advantage and with no regard for others in the class or for my schedule moved me to spell out the rules above.

There is absolutely no extra credit in this course. Please do not ask.

**Class Discussion:** You will be graded on class discussion -- participation is about 10% of your grade. Grading on participation will start after the basic biology section of the class is over. From then on, a grade will be determined each week. I use a one-week basis because some classes have less opportunity than others for participation. Showing up for class and saying nothing will earn you 0.25; unexcused absence (no Dean's excuse) gets a zero. You will get your current participation grade each time I return an exam; it will be a number between 0 and 1 indicating the fraction of participation points you are presently earning. Participation must be consistent throughout the second part of the semester to earn the best possible mark -- miracle improvements at the end or great starts followed by lack of involvement to do not constitute a semester's work.

Therefore, expect to be called on to speak and be ready to volunteer your well-considered ideas or questions.

For those who don't like to talk in class, you can also earn points by participating on the **Moodle discussion board**. More information on this will be provided in class.

**Academic Honesty:** I have seldom encountered dishonest behavior by Holy Cross students. Honesty is the foundation of the academic and scientific enterprise. If we are assured of an honest environment, class morale tends to be good and the trust allows for a high degree of respect. Therefore dishonesty in the form of cheating on exams (taking, receiving, or intentionally giving aid), plagiarism on papers, or falsifying an excuse in order to miss an exam will not be tolerated. ANYONE WHOM I HAVE SUFFICIENT REASON TO BELIEVE HAS CHEATED OR HAS ATTEMPTED TO CHEAT on an exam or WHO HAS LIED obtain an excuse from sitting at an exam at the scheduled time will be confronted and a report sent to the class dean. Normally, the result is a grade of zero for the exam and a notation in the student's records.

I know that it presently is a habit of many to write themselves messages on their hands. Please do NOT come to class with writing on your hands arms or clothes (you get the idea) on the day of the exam as I might ask to "read you".

**How to Study for this Course:** Prior to most classes you will have access either to a set of class notes and/or a reading assignment. Both the "handout notes" on the website and readings from the textbook and other sources are important. After class you will also have access to the class power points.

If you are not used to studying for a science course, please be aware that content and thought are both important. So, please:

- Do the reading.
- Make notes and jot down questions dealing with material that you do not understand.
- Try to answer the study questions. I recommend that you try to do this first on your own but that you also discuss the answers with your colleagues.
- Formulate additional questions of your own.

Class will be a mixture of lecture and discussion. Discussion means that I expect you to:

- Ask questions about anything that you did not understand.
- Be prepared to answer the questions assigned for a given class period.

During the "lecture" part of the class period, I will explain areas that students typically find difficult. You should take notes from these lectures. Two important hints:

- **Something does not have to be on the board or a slide to be important.**
- By the same token, not everything that is said is important -- you need not be a stenographer.

I expect that you will attend every class, be on time and be alert and ready to learn and participate, and not leave the classroom unless you really need to leave.

Within a day after each class, you should:

- Go over your notes again
- Review the readings
- Try to learn the material (*i.e.* not just familiarize yourself).

This way you will stay current and any areas of difficulty you have will be evident immediately and can be corrected by consulting with me long before the next exam. Notice that the responsibility is on you to stay current, to learn the material as soon as possible, and to stay current.

**I expect you to spend about three hours outside of class learning and reviewing the material for each class period.**

Some may need to spend more, some may get by with less, but generally grade performance is well correlated with a steady effort such as I have just described

**Problems:** A number of aspects of this course are mathematical and so some problems will be assigned. There will be no credit attached to these assignments; they are purely for study purposes.

**Office Hours and Review Sessions:** I will hold review sessions every two weeks or so or as needed. Attend if at all possible and not just the sessions nearest the next exam. Most students find that questions are asked that they hadn't thought about. I hope that you will also get a better feel for what I believe to be most important. The way review sessions work is that you should come with questions to ask me. I may also ask you some questions.

Office hours are also times when you can come and ask me questions or just discuss biology. Please note that on occasion I will have to go to meetings during these times and I will need to cancel office hours. You may also see me at other times by appointment. Due to the additional assignments I must bear, it may be difficult to get extended periods of help outside of review sessions and office hours.

You should also feel free to ask me questions after class (especially since office hours follow quickly!). However, please do not come by immediately before class, as I will be preparing for class.

Distribution of materials is via the worldwide web, intranet and via e-mail. I plan to only use Moodle for on-line discussion. All study questions, problems, and the readings will be distributed electronically. These materials will be available well before we will discuss them in class. All of these files will be in Adobe Acrobat format. Note that files on the intranet are only available on campus. These are clearly labeled on the website.

**E-mail:** Please feel free to contact me by email. I will respond if I have time. Please do not ask for explanations of material via email unless the answer would seem to be short. But certainly ask if you are unsure - I can always ask you to come to my office.

**Active cell phones are NOT permitted in class.**