

OFFICE AND OFFICE HOURS:

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**<http://www.lions.odu.edu/~kkilburn/home.htm>**

Office hours: M, F 2:00 - 3:30 and by appointment

**IMPORTANT NOTE:** When you e-mail me, please include "Bio 108" in the subject line, especially if you're using something other than your ODU e-mail account. I delete e-mails from unknown addresses without reading them; properly identifying your e-mail will keep that from happening to you!

TEXTS & OTHER REQUIRED MATERIALS:

**Biology 108N/109N custom text**  
**Symbiosis custom lab manual**

The text, lab manual, and other ancillaries are available as a shrink-wrapped package at the ODU and Dominion Bookstores.

Additional readings will occasionally be provided either as hard copy or on line.

OTHER RESOURCES:

The student CD that comes with your text includes valuable activities and chapter quizzes. Relevant activities and quiz questions are identified on the Topic and Resource Outlines that accompanies each unit of lecture material (see below).

This course has two associated web sites. The site I refer to as "the course website" is **<http://www.lions.odu.edu/~kkilburn/108home.htm>**; it includes links to important course documents (lecture notes, syllabus, study guide, etc.) and to other resources relevant to the course.

The Blackboard site (**<http://www.blackboard.odu.edu>**) houses an on-line gradebook where you can check your lecture exam scores. I also use the Blackboard site to post additional course policies, PowerPoint handouts, important announcements, and additional course documents as appropriate, and to send e-mail to the class when necessary. TA's will use the lab Blackboard sites for similar purposes. You must have an active ODU e-mail account to use the Blackboard sites. I update Blackboard announcements frequently; when I do, I also send the information via e-mail. You are responsible for all information included in the Announcements and Course Docs & Info areas

I have developed a set of print resources to accompany this course. Depending on your personal preferences, you may find some more useful than others. They are:

- **Lecture notes** posted on the course website and on Blackboard. These are the notes I use in lecture; they are not the "final word" on the material I actually

- present. I may add material not on the printed notes; I may decide to leave out material I thought I would include. The printed notes, therefore, are not a substitute for attending class.
- **PowerPoint handouts** posted on the Blackboard site. I provide PDF files of both the 3-slide and 6-slide views. Having printed figures of the PowerPoint slides may be useful because it keeps you from having to draw all the figures as I discuss them. PowerPoint handouts are not available on the main course website because of copyright restrictions on many of the figures.
  - **Topic and resource outlines** posted on the course website and on Blackboard. These are the “final word” on the specific readings and other material for which you are responsible. They also include lists of CD quiz questions and other review materials appropriate to each topic we cover in class.
  - **Study guides** posted on the course website and on Blackboard. These are lists of discussion-style questions designed to help you identify, review, and self-test over the material that will be covered on each exam. They are not lists of exam questions; used properly, they are excellent study aids.
  - **Lab handouts** are posted in the Lab Handouts area of Blackboard and on the course website. You are responsible for the material contained in the handouts. A typical handout will include homework and other assignments (along with their due dates), the week’s lab assignment, quiz information, and lab lecture outlines. You should print these out and bring them to lab each week.

Although they do not count as “points” toward your final grade, I will use short in-class quizzes as a way for you to review lecture material and prepare for exams. Quiz questions will be displayed and you will have time to work with other students to answer them before I discuss the questions and answers. Quiz questions and answers will NOT be available outside of class.

#### COURSE DESCRIPTION AND OBJECTIVES:

Biology 108N/109N is a two-semester course for non-biology majors that satisfies ODU’s general education natural science requirement. I have three major goals for the course. First, I hope to increase your understanding of the process of scientific inquiry by integrating discussions of the process of science throughout the course. Second, I will help you develop the skills and knowledge necessary to understand the biology behind many of the issues facing you as an individual and as a citizen. Finally, I hope that, by sharing my own passion for them, I will help you develop a greater appreciation for the natural world and the science that helps us understand it.

The course is divided into two semesters, each with its own broad theme. In the fall we will focus on understanding how humans “fit” into the world around us. We will study fundamental principles of ecology and evolution and use those principles to explore topics especially relevant to conserving biodiversity. In the spring we will learn how our own bodies work, with particular attention to diet, nutrition, and

exercise; infectious disease; and the brain/behavior connection. Throughout both semesters we will identify important historical developments and current ethical issues that arise as a consequence of our increasingly sophisticated technologies.

The laboratory portion of the course is designed to help you understand the scientific process by providing you with opportunities to apply it through your own investigations. Selected exercises will also provide hands-on learning to complement or reinforce lecture material. Finally, a variety of individual and group exercises will help you improve your research, analytical, writing, and oral communication skills.

#### EVALUATION:

Your grade in this course will be determined by your performance on lecture exams and a variety of laboratory activities, as follows:

1. *Lecture exams*: Four lecture exams worth 200 points each will be given. Exams will assess your understanding of facts and concepts as well as your ability to apply facts and concepts to novel situations. Exam dates are indicated on the course schedule and will be taken at the Learning Assessment Lab ("Testing Center" in the Gornto building; 683-3170). You will need to provide your own BLUE scantrons and number 2 pencils for all exams; you will also need a photo ID to take the exam. You are responsible for knowing lab hours (see <http://www.dl.odu.edu/departments/clt/lalab/hours.html>); you will not be allowed to take an exam less than one hour before the lab closes (this policy is enforced to the minute according to the Lab's clock – so be careful!). You are also responsible for knowing and observing all LAL policies (see <http://www.dl.odu.edu/departments/clt/lalab/conduct.html> for more information). To accommodate missed exams I will drop the lowest of the four lecture exam scores.

**No makeup exams will be given** unless you have a legitimate, ongoing, irreconcilable conflict with the exam dates and/or a **documented, legitimate reason** (University business, illness, family emergency, or inability to travel due to weather) for missing **two** exams. ***The first exam you miss is the exam I will drop, regardless of your performance on other exams or the reason you missed the exam!*** This policy is designed to allow every student one legitimate missed exam without creating the administrative burden of administering large numbers of makeup exams.

If you know you have a conflict with an exam date and have already missed one exam, you must contact me at least one week in advance of the second exam to receive permission to make up the exam. If you have an emergency the day of an exam and have already missed one exam, you must notify me within 24 hours of the second exam to receive permission to make up the exam. With my written permission, you will take your **one** makeup exam on the scheduled makeup day (**Monday, 5 December**) in the Learning Assessment Lab.

2. The *final exam* is worth 200 points and will be partially comprehensive. It may not be used as one of your “dropped” exam scores. The general format will be the same as for the lecture exams; you will need a BLUE scantron and number 2 pencil. The final exam will be given in the lecture hall on **Wednesday, 14 December, at 8:30 a.m.** If you miss the final exam for a documented, legitimate reason (see above), you must notify me the day of the final and arrange to make up the exam within 24 hours. Additional information about the final exam will be provided a few weeks before the end of the semester.

3. *Laboratory work*: Laboratory work will consist of a series of weekly activities and assignments assessed in several ways depending on the activity (see the schedule at the end of the syllabus for details). Briefly, the assessments are as follows:

- **In-class assessment (ica)** = 5 points awarded for full participation in the relevant lab activity. Students who arrive late or who do not participate fully will receive 0's. Your low ica score will be dropped.
- **Homework (hw)** = 10 points for each assignment. All written work must be typed, double-spaced, and accompanied by a signed honor code statement (“*In completing this assignment I have abided by the honor code of Old Dominion University*” is fine). Homework will be graded on thoroughness, adherence to instructions, and writing mechanics (grammar, spelling, punctuation). See the Course Docs & Info area of Blackboard for general guidelines; specific information for each assignment will be provided in lab. Your low homework score will be dropped.
- **Quizzes (qz)** = 20 points for each lab quiz. Quizzes cover factual and conceptual material from selected laboratories and will be given at the beginning of the lab period. Students must be on time to take lab quizzes; students who arrive late will not be permitted to make up the quiz. Your low quiz score will be dropped.
- **Article reviews (ar)** = 15 points for each review. You will review four news articles dealing with scientific studies relevant to this semester’s topics. Details will be provided by your laboratory TA. Your low score will be dropped. If you miss an assignment, it will be used as your dropped score. No makeup or late assignments will be accepted except under extraordinary circumstances as determined by the TA and me.
- **Projects (pj’s)** = one 30-point “animal diversity” and one 40-point “conservation” group research project and class presentation. More information will be provided in lab.
- **Diversity essay (de)** = a short capstone essay on the major theme of lab for the semester. The essay is worth 25 points; no late papers will

be accepted except under extraordinary circumstances. More information will be provided by your laboratory TA.

Laboratories can be made up only in the event of a documented, legitimate absence and only if a TA agrees to allow you attend another of his or her labs. We will work with students who are away from campus representing the University or those with special circumstances on a case-by-case basis. To accommodate students with legitimate reasons for missing labs and being unable to make them up, we will drop the lowest in-class assessment, homework, and quiz score before calculating final lab grades.

All students are responsible for knowing and following the general lab policies outlined at the end of the syllabus. Failure to do so may result in sanctions ranging from loss of points for an individual lab to expulsion from the course.

Additional policies on late arrival to lab, missed labs, student disruptions, etc., are posted in the Course Docs and Info area of Blackboard. You are responsible for reading, understanding, and following those policies.

#### POINT DISTRIBUTION AND GRADING SCALE:

##### Point distribution

**lec. exams** (4 @ 200 pts ea,  
low score dropped) = 600

**final exam** (1 @ 200 pts) = 200

**Subtotal for lecture = 800 points**

**ica** (12 @ 5 pts ea, low score  
dropped) = 55

**hw** (8 @ 10 pts ea, low score  
dropped) = 70

**qz** (9 @ 20 pts ea, low score  
dropped) = 160

**ar** (4 @ 15 pts ea, low score  
dropped) = 45

**de** (1 @ 25 pts) = 25

**diversity pj** = 30

**conservation pj** = 40

**Subtotal for lab = 425 points**

**Total for course = 1225 points**

##### Grading scale

90 - 100% (1102.5-1225 pts) = A

80 - 89.9% (980-1102 pts) = B

70 - 79.9% (857.5-979.5 pts) = C

60 - 69.9% (735-857 pts) = D

below 60% (734.5 pts or less) = F

#### GRADING POLICIES:

I do not grade on a curve, nor do I provide extra-credit assignments. Neither will the lab TA's. I may, but do not guarantee to, adjust exam scores if I feel than an exam is unreasonably difficult or unfair. If you receive an anomalously low score

on a single exam, I reserve the right (but do not guarantee) to weigh that exam less heavily than others when computing your final grade in the class. If, at the end of the semester, your grade falls on a "borderline", I reserve the right to take improvement, effort, and class participation into account in determining your final grade.

I reserve the right to use plus/minus grades for students whose grades fall on grade borderlines, but such use will not result in a lower grade than indicated by the scale above (a 90% will result in an A, not an A-, e.g.; an 89% may result in an A- or B+ instead of a B, but that is not guaranteed).

In keeping with University regulations, grades of Incomplete (I) will be given only in exceptional circumstances beyond the student's control (such as illness or injury), and only after the student has completed 80% or more of the course requirements.

#### HONOR CODE:

By taking this course, you agree to adhere to Old Dominion University's honor code. Cheating on exams, plagiarism in written work, and failing to participate fully in group work will not be tolerated; infractions will be dealt with according to University policy. General honor code guidelines for various course assignments are posted in the Course Docs & Info area of Blackboard; all students are responsible for reading, understanding, and following those guidelines.

#### REQUIREMENTS OF THE ODU DEPARTMENT OF BIOLOGICAL SCIENCES:

By taking this course, you agree to adhere to the following requirements and policies of the ODU Department of Biological Sciences. Additional expectations and requirements are detailed in other parts of the syllabus.

- There is to be no consumption of food or drink in the laboratory or lecture rooms. If you require food or drink for medical reasons, please move to the lobby.
- If you are in conflict with a faculty or staff member, your first point of contact is the Biology Department Chair. His office is located in room 110 of MGB. If you are in conflict with a teaching assistant, your first point of contact is the instructor of the course.
- Inform the instructor or graduate teaching assistant of any medical conditions or needs you may have.
- Turn off electronic devices (cell phones, hand palms, etc) during the lecture and laboratory periods.
- Read the Safety in the Biology Teaching/Research Labs instruction sheet located in each laboratory. Fill out and sign the Emergency Information Sheet, which will be provided for you in the laboratory.
- Refer any questions concerning these requirements to the Department of Biological Science Chair, Lytton John Musselman Room 110 MGB.

#### MY EXPECTATIONS OF YOU:

I do not use lecture attendance in calculating your grade. Most students will find, however, that missing numerous classes will hurt their grades. I expect you to arrive in class promptly and to be ready to learn when you arrive. If you arrive late, I expect you to take a seat quietly at the back of the lecture hall. If I find that late arrivals are consistently disrupting the class, I will take appropriate action.

I expect you to remain in class for the entire lecture period. If you must leave early, please notify me before class and sit at the back of the lecture hall to minimize disruptions to other students. If I find that early departures are consistently disrupting class, I will take appropriate action.

Cell phones and pagers must be turned off while you are in class. You should refrain from any activity that creates noise and disrupts the attention of the students sitting around you. Students who consistently disrupt the class will be dealt with according to University policy.

Eating and drinking are prohibited in the lecture hall and in the labs. This is an important University policy designed to prevent accidents as well as to ensure a classroom atmosphere conducive to learning.

Although this is a freshman-level course, it is a college-level science course. You should plan on spending a minimum of two or three hours out of class for every hour you spend in lecture preparing for this class – the standard formula for most college courses at any level. That time includes reading each section of the text before it's covered in class, reviewing and/or rewriting lecture notes, re-reading text material in depth, answering and reviewing study guide questions and preparing questions over any material with which you need additional help. You may also need additional time to prepare for exams. This is not a formula for receiving an "A" in the course; your grade is based on demonstration of learning, not on time or effort.

You should prepare for each laboratory by reading any assigned material and completing any assigned preparations. Failure to do so will likely result in a loss of points and a lowered grade.

**IF YOU ARE EXPERIENCING DIFFICULTY:**

If you are having any difficulty – with specific course content or anything else I can help with – please don't hesitate to ask for my help. Remember also that you have access to a variety of student services on campus; I'm more than willing to help you locate those as necessary.

**IF YOU HAVE ANY SPECIAL NEEDS:**

Please inform me as soon as possible of any special needs you might have, including medical conditions that may require special accommodation.

#### CHANGES:

I reserve the right to make reasonable changes to the syllabus following timely notification of the students.

#### MANAGING CONFLICTS:

If you are having a conflict with another student in your lab, bring it to your TA's attention. If he or she cannot resolve it, the problem will be brought to me. If you have problems with your TA or with me, please let me know right away. Any issues we cannot resolve among ourselves will be taken to the Department Chair, Dr. Lytton Musselman, for mediation.

#### HELPFUL HINTS:

I encourage all students to visit "Dr. Mom's Guide to College" ([http://www.lions.odu.edu/~kkilburn/dr\\_mom\\_home.htm](http://www.lions.odu.edu/~kkilburn/dr_mom_home.htm)) for general advice on maximizing your success in my class. The course homepage also includes links to other "academic success sites"; I encourage you to check them out.

For most students, the best way to maximize academic performance is to develop a consistent, regular program of preparation, review, and study and to **STICK WITH IT**. That means setting aside specific times each week to "preview" upcoming material from the text and to review previous material from the text and lecture. With a regular, consistent study program, test preparation becomes much more effective and much less traumatic.

A good way to think about your study time is to recognize four essential steps to mastering the material you need to learn.

- Step 1 is to **identify** the material you need to learn. When you preview a text chapter, read study guide questions, and locate the material you need to use to answer them in the lecture notes, text, and other ancillary materials, that's what you've done. The biggest mistake I see many students make is to stop at this step. Don't make that mistake!
- Step 2 is to **learn** the material. How you do that will depend on your particular learning style and the nature of the material. Listening to taped lectures, making and using flash cards, outlining the material from the text, diagramming processes, drawing and labeling structures – these are all tools (but not the only tools) to help with Step 2.
- Step 3 is to **self-test**. This will help you determine what you have succeeded in learning and what you still need to work on. The topic and resource outlines for each unit identify material from the text and CD you can use for this. The study guide is another important resource. How you self-test, again, depends on your particular style. Some of you will prefer to test yourselves; others will find group sessions helpful. Don't hesitate to ask your GTA or me to quiz you over selected material.
- Step 4 is to **repeat as necessary**. For most of us, really learning something requires repetition. That's why it's so important to continue to identify, review,

learn, and self-test consistently throughout the semester.

Note that simply memorizing the lecture outlines is NOT the same as learning the material. Use the sample quizzes and other resources provided to test yourself over the material and ensure that you truly understand it.

Although none of the following strategies will guarantee your success in the course, they have proven helpful to many of my students in a variety of classes. You might consider trying several of the following until you work out the study style that works best for you. (Quick quiz – which step or steps from the list above do these help with?)

- Tape the lectures and listen to them in the car, at home, etc. for review.
- Ask questions in lecture and during my office hours.
- Rewrite your lecture notes, filling in details and concepts from the text.
- Ask questions in lecture and during my office hours.
- Test yourself by making up questions and answering them aloud or in writing.
- Ask questions in lecture and during my office hours.
- Use flash cards to study vocabulary whenever you've got a few minutes.
- Study in a group; take turns explaining material to each other.
- Ask questions in lecture and during my office hours.
- Come to office hours any time you have a question or want help reviewing.

Remember that I am not a mind-reader; if you need help, please ask for it!

#### GENERAL LAB POLICIES:

- No eating or drinking are allowed in the labs (if necessary, you can take food, drink into hall for quick break – but only with your TA's permission).
- You must wear completely closed shoes (no sandals or slides) and clothing that completely covers the torso and upper legs. Students with tank tops, bare midriffs, or skimpy shorts will not be admitted to the lab. That means you will be unable to take the quiz or participate in the lab – so you will lose points!
- Students who fail to observe proper safety precautions (including clothing restrictions) will lose their quiz and in-class assessment points for that lab period. General safety guidelines are outlined on the inside of the front cover of the laboratory manual; additional guidelines will be explained in lab.
- Labs can be made up **only** due to documented, legitimate absence and only if a TA can accommodate you in another lab section. You, not your TA's, are responsible for making the necessary arrangements to make up missed labs. You may receive points for homework for missed labs if you have documented, legitimate excuses, but not for in-class assessments or quizzes. Additional information on missed labs is available in the Course Docs & Info area of Blackboard.

- To accommodate one legitimate missed lab, we will drop the lowest ica, homework, and quiz score before calculating your final lab grade.
- All students at a lab table will lose credit for the entire lab if they fail to clean up their lab station before the last student leaves the class.
- All students at a lab table will lose credit for an entire lab, as well as bear the cost of replacement, if any equipment is found missing from that table at the end of class.
- All honor code violations (or suspicions thereof) will be reported and pursued to the full extent provided by University policy.
- Individual TA's may have additional policies to which their students must adhere. These will be provided in writing during the first lab meeting.
- Additional laboratory policies are included in the Course Docs & Info area of Blackboard. All students are responsible for reading, understanding, and following those policies.

## EXAM DATES & TENTATIVE LECTURE SCHEDULE

See Topic & Resource Guides for readings and related activities for each unit.  
 Note that lecture “Units” do not correspond to text “Units”.  
 Exact dates for each topic may change; the sequence of topics and lab dates will remain the same.

Week	Date	Unit	Topics
1	8/29	1	Introduction; The nature of science
2	9/5		Scientific inquiry <b>Labor day (no class Monday)</b>
3	9/12		Life and the ecological hierarchy <b>Exam 1 F 9/16</b>
4	9/19		Natural selection and the evolution/ecology connection
5	9/26	2	Introduction to conservation biology
6	10/3		The evolution of biodiversity <b>EXAM 2 F, 10/7</b>
7	10/10		Evolution of Biodiversity, cont'd <b>Fall break (no classes M,T)</b>
8	10/17	3	Human population growth & the ecological footprint
9	10/24	4	Community ecology 1
10	10/31		Community ecology 2 <b>Exam 3 F 11/4</b>
11	11/7		Community ecology 3
12	11/14	5	Ecosystem ecology 1
13	11/21		Ecosystem ecology 2 <b>Thanksgiving break (no classes W-F)</b>
14	11/28		Ecosystem ecology 3 <b>Exam 4 *****M***** 11/28</b> <b>Wednesday 11/30 last day to schedule makeup exams</b>
15	12/5		Guest speakers <b>Monday 12/5 = makeup exam day</b> <b>Friday 12/9 = last class</b>
16	12/12		<b><i>FINAL EXAM – Wed 12/14 at 8:30 a.m.</i></b>

## LABORATORY SCHEDULE

Class Week	Start Date	Lab #	Exercise & Notes	ica	hw assigned?	hw due?	quiz?
1	8/29	1	<i>Monday labs meet Friday 9/2 instead of Monday 9/5</i> <b>Scientific Inquiry</b>	1	1 news article	no	no
2	9/5	1	<b>Scientific Inquiry</b>	1	1 article	no	no
3	9/12	2	<b>Quantitative observation &amp; graphing</b>	2	2 graphing	1	1 sci. inquiry
4	9/19	3	<b>Dichotomous keys &amp; plant diversity</b>	3	3 plant search	2	2 graphing
5	9/26	4	<b>Plant adaptations: flowers, seeds, fruit</b>	4	4 veggie & spice ID	3	3 keys, plant diversity
6	10/3	5	<b>Microscopy &amp; pond</b> <i>Introduction to zoo lab</i>	5	no	4	4 plant adaptations
7	10/10	6	<b>Zoo Visit</b> ( <i>Independent activity - no labs meet; hw = writeup part 1; qz = writeup part 2</i> )		5 zoo writeup	no	no
8	10/17	7	<b>Animal Behavior 1</b> <i>Diversity project topics assigned</i>	6	no	5 zoo writeup part 1	5 zoo writeup, part 2
9	10/24	8	<b>Animal Behavior 2</b> <i>Diversity essay assigned</i>	7	6 TV show analysis	no	6 behavior
10	10/31	9	<b>Diversity project presentations</b> <i>Conservation project topics assigned</i>	8	no	no	7 diversity project responses
11	11/7	10	<b>Foraging 1</b>	9	7 foraging observation & interpretation	6	no
12	11/14	11	<b>Foraging 2</b> <i>Diversity essays due</i>	10	no	7	8 foraging
13	11/21	12	<i>Thanksgiving holiday</i> <b>M, T labs work on conservation projects; W-F labs don't meet</b>	11	8 - project outlines due at end of class	8 project outlines	no
14	11/28	13	<b>M, T labs don't meet; W-F labs work on conservation projects</b>	11	8 - project outlines due at end of class	8 project outlines	no
15	12/5	14	<b>Cons. project presentations</b>	12			9 cons. project responses