

can attend more carefully to what I say. HOWEVER, the power point slides will not contain everything I say---you will have to add the details if you are to have an effective study aid (yes, you still have to take notes). THUS, tempting though it may be, you cannot sleep in and skip the lectures without jeopardizing your grade, either directly (by lowering your class participation grade) or indirectly (by leaving you behind in the dust).

Lecture attendance: I expect you to attend class, arrive on time, and be prepared (see above). Students may miss class three times with no penalty (this includes illness, athletic activities, field trips, etc.). If you miss more than three classes, I will deduct 10 participation points for each day missed. If you anticipate missing more than three classes, *contact me as soon as possible*.

Policy on electronic devices: Cell phones and ipods must be turned off during lecture (this means *no texting*). You may bring a laptop or tablet to class to take notes, but if the temptation to play games, chat with friends, etc., appears to be irresistible, I will ask you to put the device away. Engaging in ancillary activities is distracting to you and those around you.

Reading assignments: You have a well-written, up-to-date textbook; unfortunately, we will not have time to discuss everything in it. The chapters that are relevant to each lecture are indicated on the lecture schedule. I expect you to scan the relevant pages BEFORE each lecture to get a feel for the material I will be covering. After class, read the sections covered in the lecture more carefully, and amplify your lecture notes in areas you don't understand. There is an excellent summary at the end of each chapter, and useful questions to test your understanding. Though these are not included in the reading assignments, I suggest that you take advantage of them. I recommend that you also use the on-line study materials provided for the textbook (these include quizzes and flashcards that are quite helpful for learning the vocabulary). The link to on-line materials can be found in the textbook.

Study questions: I will post study questions after each lecture. *Many of the essay questions on exams are taken from these study questions*, thus it is in your best interest to *write complete answers* to these questions regularly (do NOT wait until the night before the exam). I will not grade your answers every week, but I may collect and grade them occasionally, so be prepared.

Lecture quizzes: At the beginning of class on most Fridays, there will be a short quiz (10 points) covering the preceding 3 lectures (generally, the lectures since the previous quiz). This is not done to make your life miserable, but to encourage you to keep up with the class by reviewing the lectures each week. Quiz days are marked in the lecture schedule. I will announce any changes---but when in doubt, assume we are having a quiz. Plan to arrive for class on time, as *late arrivals will not be allowed to take the quiz, and missed quizzes cannot be made up*. You are allowed to miss 2 quizzes without penalty, but you must contact me to explain your absence. One quiz grade will be dropped when computing your final grade.

Journal Club: In order to introduce you to the "hot topics" in zoology today, we will set aside time at the beginning of each lab to have short student presentations and discussion of current research articles on an assigned topic.

LABS: You are expected to read the assigned lab exercises BEFORE coming to lab (this includes both the assigned sections of the lab manual and the lab handouts, which will be distributed in class on Fridays). Please bring your lab manual and lab notebook to every lab.

Lab attendance: Don't even consider missing a lab except in cases of dire emergency. IT IS YOUR RESPONSIBILITY to arrange to make up a missed lab *before the next lab practical*. Be aware that it may not be possible to make up exercises involving live material, and I may

not be available to guide you as I would during the scheduled lab period. Make-up labs will be offered at the discretion of the instructor.

Lab notebook: Critical observation is absolutely essential to science. Therefore, I ask that you bring a loose-leaf binder to lab. This binder will hold all lab handouts, plus your notes and drawings. The goal of this exercise is to hone your powers of observation and provide you with a useful study tool. The lab handouts will tell you what information must be included. Your lab notebooks will be graded during each lab period.

EXAMS: Please see the lecture and lab calendars below for the exam schedule. Make-up exams will be given at the discretion of the instructor. In case of illness, IT IS YOUR RESPONSIBILITY to contact the instructor BEFORE the missed exam, provide a written excuse from the health center, and make arrangements to take the exam at another time. LAB PRACTICALS CANNOT BE MADE UP. If your absence is not excused, you will receive a 0 for the missed exam. The final lecture exam is cumulative, but weighted toward the last quarter of the course (80 points drawn from the period since the third lecture exam; 80 points drawn from the entire semester). ***Absolutely no activated electronic devices will be allowed during exams (this includes cell phones and ipods).*** If you are seen using one of these devices for any reason during an exam, you will receive a “0.”

GRADING: Your scores for all assignments and exams will be posted on Blackboard, so you can see how you are doing at any time. Simply divide your score by the total number of possible points to get a percentage, and compare this number with the grading scale (which will be posted following the first lecture exam). *There will be no extra credit options* beyond the occasional extra question on exams and lab practicals, so please focus your energy on what we are doing in class and lab. If you find yourself falling behind, or you are struggling to learn the material, *please contact me right away.* I am here to help you!

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|---|-------------------|---------------------|
| 3 lecture exams (80 points each) | 240 points | |
| Final lecture exam (cumulative) | 160 points | |
| Journal Club presentation | 10 points | |
| lecture quizzes & homework (10 points each) | 90 points | Lecture: 500 points |
| <i>Stentor</i> lab write-up | 50 points | |
| 2 lab practicals (75 points each) | 150 points | |
| Final lab practical | 100 points | |
| Lab notebook | 100 points | Lab: 400 points |
| Attendance & participation* | 30 points | |
| Final grade | 930 points | |

*This grade includes attendance, preparation, participation in discussions, and completion of all assignments. Please note that the instructor may exercise qualitative judgment in determining your final grade.

Policy on honesty: Students are expected to abide by the college policy on intellectual honesty (see Student Handbook).

Disability support: Students who wish to request accommodations in this class for a disability should contact Elaine Mara, Assistant Director of Academic and Disability Support

located on the first floor of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

TIPS FOR DOING WELL IN THIS COURSE:

Lecture exams:

1. Scan the assigned pages in the textbook before coming to class.
2. Download the lectures and scan the material for each lecture before coming to class.
3. ***Come to class***
4. Do not fall behind---after each lecture, review and annotate your lecture notes, using the text to clarify things you do not understand. If the text cannot help you, please ask me. My opinion of you will not plummet if you ask a question, so don't be shy.
5. *Write out complete* answers to the study questions posted after each lecture. *Think* about these questions as you answer them.
6. Review the lectures and your answers to the study questions for each Friday quiz.
7. You are responsible for knowing the material I present *in lecture*---you should be reading relevant sections of the textbook, but *do not try to memorize the textbook*.

Lab practicals:

1. Attend all labs.
2. Prepare for each lab by reading the lab exercise *before* you walk into the lab.
3. Do not try to race through the lab exercises---be sure you understand what you are supposed to see, and be sure you actually see it before you leave. If you are confused, ask questions---the T.A. and I are there to help you!
4. If you finish a lab early, spend your extra time wisely---review the material, look at your neighbor's dissection, check your lab notebook, quiz your lab partner, etc.
5. Learn the regional and directional terms listed on the last page of your lab manual.
6. Come to the "open lab" review sessions before the lab practicals, and prepare by making a list of the things you need to review. Listen to the other students---they may ask things you didn't think about.

Vocabulary:

1. The single greatest barrier to learning zoology is the vocabulary, which may seem like a foreign language. Do whatever you need to do to learn the terminology---flashcards, glossaries, diagrams, study groups, etc.

LECTURE SCHEDULE

| Week | | Lecture topic | Relevant reading |
|--------------|---|--|------------------|
| January 13 | M | 1. Introduction: The big questions | Chapter 1 |
| | W | 2. Chemistry of life | Chapter 2 |
| quiz | F | 3. The cell & mitosis | Chapter 3 |
| January 20 | M | <i>NO CLASSES---Martin Luther King Day</i> | |
| | W | 4. Meiosis & Reproduction | Chapter 7 |
| quiz | F | 5. Development | Chapter 8 |
| January 27 | M | 6. Body architecture | Chapter 9 |
| | W | 7. Origin & early evolution of living systems; Protozoa | Chapters 2 & 11 |
| quiz | F | 8. Protozoa | Chapter 11 |
| February 3 | M | LECTURE EXAM 1 (80 points) | |
| | W | 9. Porifera | Chapter 12 |
| | F | 10. Porifera & Cnidaria | Chapters 12 & 13 |
| February 10 | M | 11. Cnidaria & Platyhelminthes | Chapters 13 & 14 |
| | W | 12. Platyhelminthes | Chapter 14 |
| quiz | F | 13. Mollusca | Chapter 16 |
| February 17* | M | 14. Mollusca & Annelida | Chapters 16 & 17 |
| | W | 15. Annelida | Chapter 17 |
| | F | 16. Systematics & Nematoda | Chapters 10 & 18 |
| February 24 | M | LECTURE EXAM 2 (80 points) | |
| | W | 17. Introduction to arthropods | Chapter 19 |
| | F | 18. Arthropoda: chelicerates, myriapods | Chapter 19 |
| March 3 | | <i>NO CLASSES—SPRING BREAK</i> | |
| March 10 | M | 19. Arthropoda: crustaceans | Chapter 20 |
| | W | 20. Arthropoda: Hexapoda (Insecta) | Chapter 21 |
| quiz | F | 21. Echinodermata | Chapter 22 |
| March 17 | M | 22. Introduction to chordates | Chapters 22 & 23 |
| | W | 23. Vertebrate origins | Chapter 23 |
| quiz | F | 24. Fishes | Chapter 24 |
| March 24* | M | 25. Amphibians & non-avian reptiles | Chapters 25 & 26 |
| | W | 26. Non-avian reptiles & birds | Chapters 26 & 27 |
| | F | 27. Birds & Mammals | Chapters 27 & 28 |

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| March 31 | M | LECTURE EXAM 3 (80 points) | |
| | W | 28. Mammals & Evolution | Chapters 28 & 6 |
| | F | 29. Evolution | Chapter 6 |
| April 7 | M | 30. Support, protection, & movement | Chapter 29 |
| | W | 31. Homeostasis | Chapter 30 |
| quiz | F | 32. Homeostasis & Internal fluids | Chapters 30 & 31 |
| April 14 | M | 33. Internal fluids & Respiration | Chapter 31 |
| | W | 34. Respiratory & Digestive systems | Chapters 31 & 32 |
| | F | <i>NO FRIDAY LECTURE---EASTER RECESS</i> | |
| April 21* | M | <i>NO MONDAY LECTURE---EASTER RECESS</i> | |
| | W | 35. Digestive system | Chapter 32 |
| | F | 36. Nervous system | Chapter 33 |

* lab practicals will be held during the weeks marked with an asterisk

TUESDAY, APRIL 29TH, 1:30 p.m.-----FINAL LECTURE EXAM

Please note: Lecture and lab syllabi outline the topics I hope to cover in the order I hope to cover them, but I may make changes as we progress through the semester.

EXAM SCHEDULE

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|-----------------------|-----------------------------------|
| Monday, February 3 | Lecture exam 1 (80 points) |
| T-Th, February 18, 20 | Lab practical 1 (75 points) |
| Monday, February 24 | Lecture exam 2 (80 points) |
| T-Th, March 25, 27 | Lab practical 2 (75 points) |
| Monday, March 31 | Lecture exam 3 (80 points) |
| Thursday, April 24 | Final lab practical (100 points) |
| Monday, April 29 | Final exam (160 points) |

LABORATORY SCHEDULE

| Week | Laboratory topic | Laboratory exercise |
|-------------------------------|--|---------------------------------|
| <i>Lab 1.</i> January 14, 16 | Introduction, Safety Microscopy, the cell, mitosis | Handout Exercises 1, 2 |
| <i>Lab 2.</i> January 21, 23 | Meiosis, Development | Exercise 3 |
| <i>Lab 3.</i> January 28, 30 | Protozoa | Exercise 6 |
| <i>Lab 4.</i> February 4, 6 | Porifera & Cnidaria | Exercises 7, 8 |
| <i>Lab 5.</i> February 11, 13 | Platyhelminthes & Mollusca | Exercises 9, 11 |
| <i>Lab 6.</i> February 18, 20 | LAB PRACTICAL for labs 3-5 (75 points) Nematodes | Exercise 10 |
| <i>Lab 7.</i> February 25, 27 | Systematics | Exercise 5 |
| March 4, 6 | <i>NO LABS---SPRING BREAK</i> | |
| <i>Lab 8.</i> March 11, 13 | Annelids, Myriapods, Chelicerates | Exercise 12, 13, 15A |
| <i>Lab 9.</i> March 18, 20 | Crustaceans, Insects, Echinoderms | Exercises 14, 15B, 16 |
| <i>Lab 10.</i> March 25, 27 | LAB PRACTICAL for labs 6, 8-9 (75 points) Vertebrate skeletal diversity | Handout in lab, Exercise 22A |
| <i>Lab 11.</i> April 1, 3 | Vertebrate tissues Begin skinning fetal pig | Exercise 4 Exercise 22B |
| <i>Lab 12.</i> April 8, 10 | Fetal pig: finish skinning, identify muscles | Exercise 22B |
| <i>Lab 13.</i> April 15, 17 | Fetal pig: digestive, circulatory, respiratory, urogenital systems | Exercises 22C-E, G |
| <i>Lab 14.</i> April 22 24 | Review for final lab practical FINAL LAB PRACTICAL for labs 10-13 (100 pts.) Lab clean-up (clean & dry dissection instruments, trays, etc.) | |