

BIOL 160 Introduction to Animal Biology (Sections 1 & 2)

Fall 2017

Lecture T Th F @ 9:00 – 9:50 AM in SCI A208

Lab M (Sec. 1) or W (Sec. 2) @ 8:00 AM – 10:50 AM in TNR 351

| | | | |
|-------------|--|---------------|---|
| Instructor: | Dr. Daniel L. Graf | Course web | Desire2Learn site at |
| Office: | TNR 431 | site: | http://mypoint.uwsp.edu |
| Phone: | 715.346.2285 | | |
| email: | dgraf@uwsp.edu | Office Hours: | M 2-4 PM, Th 10 AM-noon |
| | (include "BIOL 160" in subject) | | or by appointment |

General Course Description. "Anatomy, physiology, adaptation, and classification of animals; morphology and anatomy of various types of animals." This course is an introduction to zoology that explores the general biology of animals. BIOL 160 is a required course for several majors, and it is required for those students planning to take upper division biology courses. BIOL 160 is a GEP Investigation-Level course in the Natural Sciences.

Objectives. The objectives of BIOL 160 are 1) to introduce students to the breadth of animal form and function, 2) examine general biological principles, and 3) to provide the foundation necessary for success in future coursework in the biological sciences.

Learning Outcomes:

- You will be able to:
1. Explain how scientific inquiry is different than other intellectual endeavors.
 2. Recognize cell theory, inheritance, evolution, and developmental biology as the foundations of zoological science.
 3. Differentiate and classify animal body-plans and organ systems.
 4. Integrate the various levels of biological organization and their emergent properties.
 5. Apply the principles of zoological science to broader personal and societal issues.

Required Materials. *Integrated Principles of Zoology*, 15th edition (2011), by Hickman, Roberts, Keen, Eisenhour, Larson & l'Andson. McGraw-Hill Higher Education, New York (ISBN 978-0-07-304050-9). This book is available for rent at the bookstore.

The lab manuals, *BIOL 160 Introduction to Animal Biology* and *The White Rat: An Abbreviated Dissection*, are available for purchase at the bookstore. A dissecting kit and protective eyewear are available for purchase at the bookstore.

A dedicated notebook for the course is recommended.

During dissection labs, if you would like to wear protective gloves, YOU must provide them.

BIOL 160 Introduction to Animal Biology

Exams, Assignments, and Grading. Your final grade will be based upon 454 possible points.

There are three lecture exams (50 points each) that constitute about 33% of your total points. Lecture exams will include matching, multiple choice, short-answer, and essay type questions. These exams will NOT be cumulative — they will only cover material since the previous exam. The cumulative final exam is worth 100 points (22%) and will cover material from the entire course, emphasizing lecture material. Exams will be designed to test your mastery of the material as well as your ability to apply critical-thinking skills.

| BIOL 160 | points |
|-------------------|---------------|
| Lecture Exam 1 | 50 |
| Lecture Exam 2 | 50 |
| Lecture Exam 3 | 50 |
| Daily Quizzes | 64 |
| Group Discussions | 20 |
| Lab Quizzes | 120 |
| <u>Final Exam</u> | <u>100</u> |
| TOTAL | 454 |

2-point quizzes will take place at the beginning of each lecture period. Questions will be short-answer format, and topics from preceding sessions as well as the lecture scheduled for that day are fair game. Any daily quiz points acquired above 64 are “bonus” points (14%).

We will occasionally suspend lecture to discuss articles or book chapters that supplement textbook material. Readings and associated assignments will be posted on the D2L website. Your participation will be assessed based on a 5-point group exercise (20 total points, 4%).

We will have a 10-point quiz each week in lab. Your lowest quiz score will be dropped, for a total of 120 points (26%). Lab quizzes will test your knowledge of the material from the previous lab session as well as your preparation for the current session. Lab attendance will also directly impact your final grade (see below).

Grades will be based upon the following percentages of the course total:

| | | | | | |
|--------|---------|--------|--------|--------|----|
| | 100-93% | A | 92-89% | A- | |
| 88-87% | B+ | 86-83% | B | 82-79% | B- |
| 78-77% | C+ | 76-73% | C | 72-69% | C- |
| 68-67% | D+ | 66-59% | D | <59% | F |

REQUESTS FOR EXTRA POINTS WILL NOT BE HONORED.

Laboratory. YOU MUST DRESS APPROPRIATELY FOR LAB.

- You MUST wear shoes — not sandals, flip-flops, or similar options that do not protect your feet.
- It is recommended that you wear clothes that you won't mind getting grubby.
- Protective eyewear must be worn when handling chemicals more hazardous than water.
- FAILURE TO COMPLY WILL RESULT IN YOUR REMOVAL FROM LAB UNTIL YOU ARE PROPERLY ATTIRED.

Exam and Quiz Rules. The following rules apply to exam periods as well as quizzes.

- If you arrive late for a quiz or exam, you will not be given extra time. When the rest of the class is finished, you will need to be done.
- If you arrive so late for an exam that anyone else has finished and left, you will not be allowed to take the exam at that time. You may be able to take a make-up exam (see attendance policy below). There are no make-up quizzes.
- All exams and quizzes must be completed in black or blue ink or pencil.
- Only necessary testing materials will be allowed in the testing area (i.e., no MP3 players, tablets, phones, etc.)
- There may be multiple forms of exams and quizzes.

Attendance. YOUR COMMITMENT TO YOUR CLASSES IS AMONG THE MOST IMPORTANT THINGS IN YOUR LIFE RIGHT NOW. You are expected to attend all lecture, lab, and exam sessions. Two unexcused absences from lab will result in a 1/3 reduction in your final grade.

If you will miss a class to participate in a college-sanctioned event, you must notify me in advance and complete the work, including exams, before the otherwise scheduled class or due-date. Absences relating to religious beliefs will be accommodated according to UWS 22.03 (below). In either case, Dr. Graf should be notified within the first three weeks of class regarding the specific dates that you will be absent.

<https://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap22.pdf>

Make-Up Exams. You must make every effort to take exams at the scheduled times. MAKE-UP EXAMS WILL BE ALLOWED IN CASES OF EMERGENCY, FOR WHICH YOU MUST PROVIDE WRITTEN DOCUMENTATION. You must make arrangements with Dr. Graf within 24 hours of the exam to schedule a make-up exam within one week or you will forfeit the points.

- **E•mer•gen•cy** |i'mərjənsē| (noun): *a serious, unexpected, and often dangerous situation requiring immediate action.*
- A good rule of thumb: *If your situation wouldn't cause you to postpone your wedding, then it isn't a good reason to miss a scheduled exam.*

BIOL 160 Introduction to Animal Biology

Academic Integrity. Any misrepresentation of your work, including plagiarism, or cheating of any kind will result in a zero (0) for that assignment. Students are encouraged to become familiar with the UWS/UWSP Student Academic Standards and Disciplinary Procedures governing student academic conduct. This is available for download at:

<https://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf>

Remember: DR. GRAF IS NOT AS DUMB AS YOU THINK HE IS.

Classroom Conduct. Student and instructor behavior should promote an environment favorable to both teaching and learning. It is disruptive to come late to class, read extra-curricular media in class, or use cell phones (and other electronic devices) during class time. Students that choose to disrespect their classmates and their instructor by disrupting lectures or labs will be asked to leave.

Disabilities. Students with disabilities are welcome and encouraged in this class. Students with disabilities should contact the Disability and Assistive Technology Center during the first two weeks of the semester if they wish to request specific accommodations.

<http://www.uwsp.edu/disability/Pages/default.aspx>

BIOL 160 Introduction to Animal Biology

| Wk | Date | Day | # | Lecture | Reading | Lab |
|----|--------|-----|----|--|---------|---|
| 1 | 5-Sep | T | 0 | Welcome to the Study of Zoology! | — | NO LAB |
| | 7-Sep | Th | 1 | Organizing Principles of Zoology | Ch. 1 | |
| | 8-Sep | F | 2 | Physics & Chemistry of Life | Ch. 2 | |
| 2 | 12-Sep | T | 3 | Macromolecules | Ch. 2 | Microscopy & Cells <i>Lab Manual: 1-21</i> |
| | 14-Sep | Th | 4 | Plasma Membrane | Ch. 3 | |
| | 15-Sep | F | 5 | Cytoplasm, Nucleus & Mitosis | Ch. 3 | |
| 3 | 19-Sep | T | 6 | Enzymes | Ch. 4 | Diffusion & Osmosis <i>Lab Manual: 37-47</i> Bring goggles! |
| | 21-Sep | Th | 7 | Cellular Metabolism | Ch. 4 | |
| | 22-Sep | F | D1 | Discussion | TBA | |
| 4 | 26-Sep | T | 8 | Mendel's Laws | Ch. 5 | Properties of Enzymes <i>Lab Manual: 49-58</i> Bring goggles! |
| | 28-Sep | Th | 9 | Meiosis & Inheritance | Ch. 5 | |
| | 29-Sep | F | 10 | Theory of Special Creation | Ch. 6 | |
| 5 | 3-Oct | T | 11 | Theory of Natural Selection | Ch. 6 | Metabolism <i>Lab Manual: 59-68</i> |
| | 5-Oct | Th | 12 | Speciation | Ch. 6 | |
| | 6-Oct | F | E1 | Exam 1 | — | |
| 6 | 10-Oct | T | 13 | Classification & Phylogeny | Ch. 10 | Mitosis & Meiosis |
| | 12-Oct | Th | 14 | Phylogenetic Biology | Ch. 10 | |
| | 13-Oct | F | 15 | Reproductive Modes | Ch. 7 | |
| 7 | 17-Oct | T | 16 | Regulation of Human Reproduction I | Ch. 7 | Phylogeny & Classification <i>Lab Manual: 69-84</i> |
| | 19-Oct | Th | 17 | Regulation of Human Reproduction II | Ch. 7 | |
| | 20-Oct | F | 18 | Body Plans | Ch. 9 | |
| 8 | 24-Oct | T | 19 | Developmental Processes | Ch. 8 | Deuterostomes I & Common Animals <i>Lab Manual: 85-92, 163-166</i> |
| | 26-Oct | Th | 20 | Developmental Patterns | Ch. 8 | |
| | 27-Oct | F | D2 | Discussion | TBA | |
| 9 | 31-Oct | T | 21 | Genes, DNA Replication & Transcription | Ch. 5 | Deuterostomes II & Common Animals <i>Lab Manual: 85-92</i> |
| | 2-Nov | Th | 22 | Translation & Gene Regulation | Ch. 5 | |
| | 3-Nov | F | E2 | Exam 2 | — | |
| 10 | 7-Nov | T | 23 | Skeletons & Body Walls | Ch. 29 | Protostomes I <i>Lab Manual: 93-122</i> |
| | 9-Nov | Th | 24 | Movement | Ch. 29 | |
| | 10-Nov | F | 25 | Homeostasis & Water Balance | Ch. 30 | |
| 11 | 14-Nov | T | 26 | What Balance & Thermoregulation | Ch. 30 | Protostomes II <i>Lab Manual: 127-144</i> Bring dissecting kits! |
| | 16-Nov | Th | 27 | Circulatory Systems & Fluids | Ch. 31 | |
| | 17-Nov | F | 28 | Vertebrate Circulatory Anatomy | Ch. 31 | |
| 12 | 21-Nov | T | D3 | Discussion | TBA | Protostomes III <i>Lab Manual: 145-161</i> Bring dissecting kits! |
| | 23-Nov | Th | | THANKSGIVING | | |
| | 24-Nov | F | | NO CLASS | | |
| 13 | 28-Nov | T | 29 | Gas Exchange | Ch. 31 | Rat Dissection I <i>Rat Dissection: 1-26, Lab Manual: 167-171</i> Bring dissecting kits! |
| | 30-Nov | Th | 30 | Digestion & Nutrition | Ch. 32 | |
| | 1-Dec | F | D4 | Discussion | TBA | |
| 14 | 5-Dec | T | 31 | Neurons & Action Potentials | Ch. 33 | Rat Dissection II <i>Rat Dissection: 27-43</i> Bring dissecting kits! |
| | 7-Dec | Th | 32 | Nervous Systems | Ch. 33 | |
| | 8-Dec | F | E3 | Exam 3 | — | |
| 15 | 12-Dec | T | 33 | Sense Organs | Ch. 33 | Rat Dissection III <i>Rat Dissection: 44-62</i> Bring dissecting kits! |
| | 14-Dec | Th | 34 | Immunology | Ch. 35 | |
| | 15-Dec | F | 35 | Synthesis & Review | — | |
| 16 | 19-Dec | T | F | FINAL EXAM 10:15 AM - 12:15 PM | | |