Welcome to Bio/Zoo 102 - Animal Biology Laboratory, University of Wisconsin-Madison

2 credits, one 3-hour lab each week, 2nd floor Noland Hall

Level: Elementary, Breadth: Biological Sciences, Counts toward the Natural Science requirement, L&S Credit - Counts as Liberal Arts and Science credit in L&S

Course Description: General concepts of animal biology at an introductory level. The general body plans and strategies used to accomplish the basic tasks of staying alive of nine major animal groups are studied using preserved and live animals. The diversity within each group of animals is studied by integrating the body plans with the lifestyle and ecology of the animals. The evolutionary relationships between the animals is a major part of the course. Dissections of earthworm, freshwater mussel, squid, sea star, and rat also aid the study of these general principles.

Requisites: None, Not recommended for students with credit already in ZOO/BOT/BIO 151/152

Instructional Mode:
All face-to-face

Credit Hours:
This is a lab course. Students will meet the 3 credits of the course by spending a total of 135 hours (at least 45 hours per credit) on learning activities and working with the instructor. This includes scheduled lab time, and any additional time outside lab.

Biology is a complex subject. This is true because life is complex, but even so, it is possible for you to gain an understanding of it. Having a scientific understanding of how the living things in our world work, however, does not take away from the sense of wonder and beauty they provide us. The naturalist E.O. Wilson proposed a somewhat controversial hypothesis that concludes that humans have a biologically-based, inherent need to affiliate with nature. The hypothesis, called Biophilia, suggests that human identity and personal fulfillment depend on our relationship to nature. Whether or not he is correct about the evolutionary aspects of our desire for connection with nature, it is clear that people are drawn to nature and that nature has an effect on people.

...We are human in good part because of the particular way we affiliate with other organisms. They are the matrix in which the human mind originated and is permanently rooted, and they offer the challenge and freedom innately sought. To the extent that each person can feel like a naturalist, the old excitement of the untrammeled world will be regained. I offer this as a formula of re-enchantment to invigorate poetry and myth: mysterious and little known organisms live within walking distance of where you sit. Splendor awaits.

Edward O. Wilson, Biophilia, 1984, page 139

Zoology/Biology 102 gives you the opportunity to wade into the depths of animal biology. This is an introductory course so there are limits to how deep we will go. We only have time and resources to provide you with glimpses into the great diversity of animal life and the knowledge that has been accumulated over time by biologists. In Wilson’s Biophilia writing he also hoped that an understanding and acceptance of our inherent love of nature might generate a new conservation ethic. Similarly, it is our hope that through the opportunities that this course will provide, you will also gain a deeper appreciation for the diversity, beauty, and worth of the animal life that shares the Earth with us, in addition to a better scientific understanding of animal life.

As course coordinator, I am very interested in receiving any constructive feedback you would like to share. I hope this course is a wonderful learning opportunity for you.--Gale Oakes, Room 243 Noland Hall, goakes@wisc.edu

Course Information and Policies:
Knowledge and Skills that 102 aims to give you the opportunity to obtain and practice:

Through the study of evolution, evolutionary relationships, heredity, and developmental processes, you will gain an understanding of why, and in what ways, animal life shares similarities and yet exists in a great variety of forms.

-Through the study of 9 major animal groups, you will gain an understanding of the unique shared characteristics of the animals in each of these groups and be able to integrate morphological, physiological, and ecological features of a given group. Although the
animals within a particular group share many basic features, you will come to understand that a particular body plan can be modified in many ways to produce a great amount of diversity within a group. You will also be able to compare anatomy, physiology, development, and other aspects of biology between the different animal groups.

-Using scientific observation and application of biological knowledge, you will propose rationale for the body plan, feeding strategy, gas exchange strategy, locomotion, etc. of animals in different groups and for the diversity of animals within a group.

-Management, teamwork, critical thinking and other process skills as the result of participating in team learning.

-Improvement in self-regulated learning by participating in labs that place the responsibility of learning on the individual student, promote the positive interdependence of collaboration, provide opportunity for reflection of learning strategies as individual and as a team and with guidance from your instructor.

**Materials needed**

You will need to purchase a 50-page carbonless lab notebook, which is available in the University Bookstore. The notebook is identified by the title “Bio/Zoo 102” on the cover. You will be answering questions, making sketches, writing notes, etc. in this notebook. If you have a carbonless notebook that is partially used from another course that will be fine, but some students use nearly the entire 50 page notebook.

You also must bring gloves to the labs in which you will be required to do dissections or handle preserved animals. Any type of latex or nitrile glove will work. The course schedule indicates for which labs you will need to bring gloves. It is your responsibility to know when to bring them. If you do not remember to bring them to one of these labs then you cannot participate in the lab activities, which could mean a loss of participations points.

Any type of glove like this is fine. They can be latex or nitrile

There is no dress code for our labs. You will not need goggles or a lab coat unless you prefer it.

The pre-lab readings and lab activities for each week’s lab will be in the Content Section of Learn@UW/Canvas course site. It is not required that you print the reading and bring it to class. You may prefer to read a paper copy, but that is your decision. The lab readings are pdf files. The lab activities are PowerPoint documents. Occasionally, pre-lab preparation involves watching a video. You need computer access that allows you to use these types of files. Campus computers are able to do all of the things required for this course in case your own is not.

There may be some documents on Learn@UW that we will ask you to print and bring to class. We are not able to provide everyone access to a printer to print these materials in the lab. For that reason, you will need to have access to a printer. A personal printer is not necessary since there is access to printers on campus for a small fee.

**Course overview and expectations**

**Pre-lab Preparation is Absolutely Necessary**

Studying a topic and learning about it each week begins before you come to lab. You are expected to come to lab with a basic understanding of topics presented in the Pre-lab Reading for each week. Associated with the reading are Pre-Lab Questions that will guide your preparation and test your understanding. You will write your answers to the Pre-lab Questions in your carbonless lab notebook. You will turn in the carbon copy as soon as you come to lab. If your answers are written on multiple pages be sure
to staple them—there are staplers in the lab. In addition, when removing the carbon copy from your lab notebook do it cleanly so there are no ragged edges. Your answers must be your own and they must be readable. These are not collaborative activities.

The Pre-lab Questions are not simply the type of questions for which you will look up the answer word-for-word in the reading. In some cases, they ask you to consider what you know from previous lab activities and/or the readings and then, based on your understanding, to propose the best answer possible. They often ask you to apply information. It is not a good idea to search online for answers. Sometimes websites have misinformation or they emphasize different aspects of a topic than what we do. Using information from another source, such as a website, that is not paraphrased in your own words is considered academic misconduct.

You need to plan an adequate amount of time to devote to the Pre-lab Reading and Pre-lab Questions. This is an important part of your learning for the course and requires time and effort. What you learn from the reading and answering the questions forms the foundation on which you build during lab activities. You will be sharing your basic understanding and answers to pre-lab questions with your team members and, at times, with the whole class.

How this Course is Designed for Learning
When you come to lab, you will have access to the lab activities for that week’s lab, which will be on Learn@UW. You will have access to these files from then on for the rest of the semester.

The course is designed so that, because of the pre-lab assignments discussed in the previous section, you come to lab with a foundation of knowledge about the concepts for a given week’s lab. You are expected to do most of your studying and learning while you are in lab. To accomplish this you must be fully engaged in the lab activities, read all information given in lab carefully, and answer questions thoroughly. Discuss the information with your teammates. Summarize in your own words what the main points of a particularly activity were when you have completed it. Ask yourselves questions that go beyond basic knowledge. Test your ability to apply the knowledge. Make good notes. However, there is not time, or the need, to copy everything from each slide in the lab activity since you will have access to the file after leaving lab. That is a poor use of your time in lab.

By the time you are finished with the lab, you should have a good understanding of the concepts and be able to apply them. During the week following the lab, you should review the concepts, and test your understanding using the learning goals to prepare for the upcoming quiz. Primarily during this week, you will be preparing for the upcoming lab and not trying to learn all of the concepts that were covered in the lab you already completed.

Learning in Teams
Early in the semester, learning teams of 3-4 students will be formed by your instructor. Once formed, the teams will be maintained for the rest of the semester. Withdrawals from the course may require that we restructure some teams. It is expected that you will participate fully with your team each week. This includes coming to class prepared, active listening, sharing your understanding, asking questions, giving feedback to your teammates, and assessing your team’s effectiveness. Working toward common goals as a team means that students are responsible for each other’s learning as well as their own and that reaching the goals implies that students have helped each other to understand and learn.
We choose to use this approach to learning because of its benefits. An analysis of 122 studies on team learning concluded that team learning has significantly more impact on learning that having students work alone. The study revealed:

- Students learn more when they work together—talking through the material with each other and making sure that all group members understand—than when students work alone.

- Students are motivated to learn the material when they work together.

- Students are more positive about the subject being studied, the teacher, and themselves as learners and are more accepting of each other when they work together.

- Students are better able to remember and then transfer their knowledge when taught with the team learning model than other instructional methods.

- A chief achievement of team learning is to develop social interaction skills. In this learning setting, the group members are asked to recognize the behaviors that help them work together and to identify their contributions to the group's success or failure.

Therefore, they realize the need for healthy, positive helping interactions and are well educated for working in groups in the classroom and beyond.

Some of the basic elements of team learning that the lab activities will incorporate are positive interdependence, promotive interaction, individual accountability, group skills, and group processing.

**Clearly Perceived Positive interdependence** is built into lab activities so that team members work together to achieve shared goals with the understanding that their individual learning success and the success of the group is dependent on all members contributing. Each team member has a unique contribution to make to the joint effort because of their personal resources and responsibilities in the activity. Positive interdependence is the belief by each individual that there is value in working with other members and that both individual learning and work products will be better as a result of collaboration.

**Promotive interaction** refers to the supportive environment you will establish within your group. For all of the benefits of team learning to be realized, team members must promote each other's success by sharing resources, providing one another with feedback, encouraging one another, and applauding each other's efforts to achieve. You will explain, discuss, and teach what you know to one another. Each of us will want to keep in mind that how we think, talk, and act toward our team members will influence how well the team and individuals perform.

**Individual accountability** reminds each individual that they will be accountable for their learning. As mentioned earlier, a reason for choosing this type of learning approach is to help all students individually achieve higher academic success. Individuals are accountable to their group through pre-lab preparation and active participation in lab. Individuals also are accountable for their own learning and each will be assessed to determine the extent to which they, as individuals, reached the learning goals.

**Group self-evaluation** is another element needed to make team learning work. Effective team work is influenced by whether or not groups periodically reflect on how well they are functioning and how they may improve their work processes. All team members must try to stay open to receiving constructive feedback and be willing to give it.

**Collaborative Skills** is a final element that team members will have the opportunity to develop and practice. They include the following: communication, conflict management skills, leadership abilities, decision making, and trust building.

If there is evidence that a group member did not participate fully in all aspects of an activity or group assignment, there will be a deduction in the individual’s score for the activity or assignment. Allowing your name to be placed on an assignment that you did not help complete is considered academic misconduct.
**Academic Integrity**

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Dean of Students Office for additional review. For more information, refer to [http://www.students.wisc.edu/doso/academic-integrity/](http://www.students.wisc.edu/doso/academic-integrity/).

Unless otherwise stated all work on pre-lab questions, quizzes, and other assignments must be your own original work. **Cheating and plagiarism will not be tolerated in this course.** If you are suspected of either of these offenses, disciplinary steps will be taken. Allowing another student to copy your work is also considered academic misconduct and subject to disciplinary steps.

**Email and Email Professionalism**

Your instructor is responsible for as many as 66 students each week and receives many student email messages. Their ability to reply promptly and accurately is greatly improved when student messages are clear and concise. Here are some guidelines for professional communication in this course:

- Before sending a message related to policies and/or assignments, check this document and the Learn@UW site. If the answer to your question is already in one of those sources, we may not reply to your message.
- Use a specific and detailed subject line.
- Include your full name and what section of 102 you are in.
- If it is the type of inquiry that we will need your student I.D. number, be sure to include it.

**Cell Phone and Lap Top Policy**

Use of cell phones or similar communication devices is **not allowed during class.** **All such devices should be turned off, stowed, and should not be taken out during class.** If you have a cell phone out in lab you will be asked to put it away and in-class points may be deducted. If your participation in team activities is affected by leaving the classroom often to check your phone then in-class points may be deducted. If there is an urgent reason that you need to check communications frequently in a given lab then please discuss this with your instructor. We ask you not to use laptops during the lab activities. The course is designed so that everyone in a team works through the activities together. Use of cell phones, similar communication devices, or any unauthorized electronic data storage devise in testing situations constitutes a violation of the Academic Integrity Policy.

**Missed Lab Policy**

It is very difficult to provide a makeup opportunity for any lab course. It is a 3-hour experience that is not possible to duplicate with an out-of-lab makeup assignment. In addition, there are over 400 students enrolled in the course. There are a lot of circumstances during a 12 week period that occur in that many lives that could affect their ability to make it to lab. We are not able to provide opportunities to make up missed labs. Therefore, we have established the following policy that will be applied consistently across sections of our course this semester.

When a student misses a lab **for any reason**, they receive a zero for any points available for that class. It is our policy to drop the lowest 35-point quiz grade and the lowest score on a 5-point in-class activity. Zeroes on any missed quiz or in-class activity, therefore, will be dropped as the lowest of these two types of grades when calculating your final grade for the course and will not affect your grade.

Any planned absence due to religious observations or UW-sanctioned event where the student’s participation is mandatory must be discussed with your instructor by the end of the third week of the semester. If the absence is due to what you think may be a
university-sanctioned event then discuss this with your instructor in the first three weeks of the semester. The nature of the event will determine if accommodations will be available.

Excuses not accepted include: registered student organization events, club sports events, illness, personal travel arrangements, conflicting appointments, employment obligations, non-emergency medical procedures, and previous illnesses that interfered with study time to name a few. We know these things occur, some of which cannot be avoided, but there are too many students in this course to be able to accommodate all of them. This is why we have the policy of dropping your lowest scores for quizzes and in-class points, which keeps the impact on your grade to a minimum.

If you are unable to attend lab, please inform your TAs by email of your absence before class. If this is a planned absence rather than an absence due to illness then discuss the nature of the planned absence with your TAs beforehand so that you can be informed about whether it is an acceptable reason for missing lab.

When you miss a lab for whatever reason, it is a good idea to discuss it with your instructor. Do not miss lab for a frivolous reason. You may miss a second lab for an unavoidable reason and then have two zeroes, one of which cannot be dropped.

Grading

You will be evaluated on your understanding of the concepts covered in each lab. The form of evaluation varies and may include quizzes, lab practical, worksheet, oral report, or scientific writing. There will be some assessment during lab activities that will inform you and your instructor on how your learning is progressing during the lab.

There is no extra credit of any kind for any reason.

If you think a mistake has been made in grading, you may submit an appeal to your instructor. You must explain the nature of the disputed grade in writing and give this written explanation to your instructor within a week of when the grade was handed back. Your written description will be taken for reevaluation and the instructor will contact you with their decision. This gives both you and the instructor time to think carefully about each other’s point of view. The only exception to this rule is if we make a math error. In this case, write “check math” on the graded material and return it. Re-grades are for the purpose of correcting grading errors, not for attempts to argue for more points.

The final grade is calculated after dropping the lowest eligible 35-point score and the lowest 5-point in-class score.

Keep all graded assignments until after you receive your final grade notification at the end of the semester.

You are expected to contribute to the class and group discussions. Because we value a class with student interaction and involvement (and your team learning depends on it), lack of class participation could hurt your final grade.

The following fixed percentage scale will be used for determining the final letter grade:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage/Total Points</th>
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<tbody>
<tr>
<td>A</td>
<td>92.0-100%</td>
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<tr>
<td>AB</td>
<td>90.0-91.9%</td>
</tr>
<tr>
<td>B</td>
<td>82.0-89.9%</td>
</tr>
<tr>
<td>BC</td>
<td>80.0-81.9%</td>
</tr>
<tr>
<td>C</td>
<td>70.0-79.9%</td>
</tr>
<tr>
<td>D</td>
<td>60.0-69.9%</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60.0%</td>
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</tbody>
</table>

When final grades are assigned, the final grade percentage will be rounded to the nearest tenth of a percent. For example, a final percentage between 90.00 and 91.94% is an AB. A final percentage of 91.95% or greater is an A.
**Tips for Success**

It is critical that you do more than just memorize “facts”. You will need to know facts and definitions for sure, but in addition, you need to prepare yourself to make comparisons that identify similarities and differences, make connections, interpret information in light of your new knowledge, identify unifying concepts, and apply your knowledge to new situations. Do not be satisfied that you understand something until you can explain it to someone else and use it to solve new problems.

How much time you devote to this course outside of class will vary from week to week and from person to person. Of course, in reality, you will need to spend as long as it takes outside of class to master the content of the course. You should adjust the time needed to fit your personal needs. However, for success it is important to realize that most of your efforts to learn will take place before coming to lab and during the lab itself. Focused, undistracted, deliberate study will improve anyone’s ability to learn.

You need to make good notes. This does not just mean taking many notes. Your notes should include, for example, detailed answers to the questions in the lab activity, summaries of concepts and information from each individual activity you do in lab, sketches and other visual representations of information that help you learn structures and see connections, summaries related to the learning goals, etc.

For the quizzes, it is not a good idea to wait until the night before to study. Cramming does not work well for most people for these quizzes. Just reading the text or passively reviewing the PowerPoint slides of the activity and your notes does not work, either. You must prepare for the quizzes in a way that enables you to work with ideas which includes applying them to novel situations, solving problems, and explaining your reasoning.

**Use of animals**

You will be observing live animals and preserved animals. For the preserved animals, the preservative is either alcohol or propylene glycol. The animals that you will dissect with a partner are: earthworm, squid, freshwater mussel, sea star, and rat. The earthworm has been anesthetized in alcohol and the rest are preserved. There are no alternative learning opportunities to the dissections. Not being able to do this part of the course can have a negative effect on your grade since you will not have the same learning opportunities as other students. You must agree at the first lab meeting to participate in these activities to continue in the course. If you have reservations about observing, handling, or dissecting animals for whatever reason then you should discuss it with Gale Oakes the course coordinator during the first week of lab.

**Student Rights and Responsibilities**

Every member of the University of Wisconsin–Madison community has the right to expect to conduct his or her academic and social life in an environment free from threats, danger, or harassment. Students also have the responsibility to conduct themselves in a manner compatible with membership in the university and local communities. UWS Chapters 17 and 18 of the Wisconsin Administrative Code list the university policies students are expected to uphold and describes the procedures used when students are accused of misconduct. Chapter 17 also lists the possible responses the university may apply when a student is found to violate policy. The process used to determine any violations and disciplinary actions is an important part of UWS 17. For the complete text of UWS Chapter 17, see [https://conduct.students.wisc.edu/nonacademic-misconduct/](https://conduct.students.wisc.edu/nonacademic-misconduct/) or contact the on-call dean in the Dean of Students Office, 608-263-5700, Room 70 Bascom Hall.

**Accommodations:**

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to
identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student’s educational record, is confidential and protected under FERPA.

Sometimes parts of activities are referred to by the color of the text in which they are typed. If you have a type of colorblindness that makes it difficult to distinguish anything referred to by color in this class, please let your instructor know and we will try to make revisions.

If an exam in another course is schedule during your lab time then the instructor giving the exam must make accommodations and provide you an alternative time to take the exam. You may refer the instructor giving the exam that conflicts with lab time the following link https://registrar.wisc.edu/documents/exam_policy.pdf

**Diversity and Inclusion:**

**Institutional statement on diversity:** Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

These are the policies of Bio/Zoo 102 and they will be applied consistently throughout the semester. Please feel free to discuss any of the information included with your teaching assistant and/or course coordinator.

See Lab Schedule on pages 9 and 10.
BIO/ZOO 102 ANIMAL BIOLOGY LAB - FALL 2018

**Assignments & Points Available/Lab**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignments / Assessments</th>
</tr>
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<tbody>
<tr>
<td>Week of Sept. 10</td>
<td>Lab 1: Introduction, Evolution, Tree Thinking</td>
<td>Lab 1 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Sept. 17</td>
<td>Lab 2: What is an Animal, Porifera</td>
<td>Lab 2 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Sep. 24</td>
<td>Lab 3: Cnidaria</td>
<td>Quiz 1 (Labs 1 and 2)</td>
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<td>Lab 3 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Oct. 1*</td>
<td>Lab 4: Platyhelminthes</td>
<td>Lab 4 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Oct. 8*</td>
<td>Lab 5: Nematoda, Rotifers</td>
<td>Quiz 2 (Labs 3 and 4)</td>
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<td>Lab 5 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Oct. 15*</td>
<td>Lab 6: Annelida</td>
<td>Lab 6 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Oct. 22*</td>
<td>Lab 7: Mollusca</td>
<td>Quiz 3 (Labs 5 and 6)</td>
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<td>Lab 7 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Oct. 29*</td>
<td>Lab 8: Arthropoda</td>
<td>Lab 8 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Nov. 5*</td>
<td>Lab 9: Echinodermata</td>
<td>Quiz 4 (Labs 7 and 8)</td>
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<td>Lab 9 Pre-lab due, 15 pts In-class</td>
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<td>THIS LAB IS WORTH 50 POINTS</td>
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<tr>
<td>Week of Nov. 12*</td>
<td>Lab 10: Chordata</td>
<td>Lab 10 Pre-lab due, 15 pts In-class</td>
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<tr>
<td>No Lab—Happy Thanksgiving!</td>
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<tr>
<td>Week of Nov. 26*</td>
<td>Lab 11: Mammalian Anatomy</td>
<td>Lab 11 Pre-lab due, 5 pts In-class</td>
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<tr>
<td>Week of Dec. 3</td>
<td>Lab 12: Comparative Skeletology</td>
<td>Quiz 5 (Lab 10 and 11)</td>
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<td>Lab 12 Pre-lab due, 15 pts In-class</td>
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<td>THIS LAB IS WORTH 50 POINTS</td>
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</table>
*Labs that include dissection or handling preserved animals; **Bring gloves.**

**Summary of Zoology 102 Graded Assignments**

<table>
<thead>
<tr>
<th>Lab</th>
<th>Number of Points</th>
<th>Your Score</th>
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<tbody>
<tr>
<td>Lab 1 Introduction, Evolution</td>
<td>5 pts In-class, pre-lab completed</td>
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<tr>
<td>Lab 2 What is an animal, Porifera</td>
<td>5 pts In-class, pre-lab completed</td>
<td></td>
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<tr>
<td>Lab 3 Cnidaria</td>
<td>35 pt. Quiz covering Labs 1 and 2, 5 pts In-class, pre-lab completed</td>
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<tr>
<td>Lab 4 Platyhelminthes</td>
<td>5 pts In-class, pre-lab completed</td>
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<tr>
<td>Lab 5 Nematoda</td>
<td>35 pt. Quiz covering Labs 3 and 4, 5 pts In-class, pre-lab completed</td>
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<tr>
<td>Lab 6 Annelida</td>
<td>5 pts In-class, pre-lab completed</td>
<td></td>
</tr>
<tr>
<td>Lab 7 Mollusca</td>
<td>35 pt. Quiz covering Labs 5 and 6, 5 pts In-class, pre-lab completed</td>
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<tr>
<td>Lab 8 Arthropoda</td>
<td>5 pts In-class, pre-lab completed</td>
<td></td>
</tr>
<tr>
<td>Lab 9 Echinodermata</td>
<td>35 pt. Quiz covering Labs 7 and 8, 15 pts In-class, pre-lab completed</td>
<td></td>
</tr>
<tr>
<td>Lab 10 Chordata</td>
<td>15 pts In-class, pre-lab completed</td>
<td></td>
</tr>
<tr>
<td>Lab 11 Mammalian Anatomy</td>
<td>5 pts In-class, pre-lab completed</td>
<td></td>
</tr>
<tr>
<td>Lab 12 Comparative Skeletology</td>
<td>35 pt. Quiz covering Labs 10 and 11, 15 pts In-class, pre-lab completed</td>
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</tbody>
</table>

Quizzes 1, 2, 3, 4, and 5 = 35 points each 175 points

5 In-Class points, Labs 1-8, 11: Team* and Individual 45 points

15 points In Class, Labs 9, 10, and 12: Team* and Individual 45 points

225 Total = 265 points – lowest 35 point quiz – lowest 5 point In-class pts.

* Team members receive the same score for team assessments unless the instructor determines, and/or team members determine, that an individual did not contribute enough toward the team assessment. Then, an individual’s grade could be lower than the team grade.

**Other important Dates:**

Last Day to Drop Course without Notation on Transcript: Wednesday, September 12th
Instructors cannot drop students from a class. As a student, you must assume the responsibility of withdrawing from any class that you do not wish to complete.