

## **IB303 – Anatomy (4 credits)**

### **Course Syllabus**

**Course Description:** This course will provide an overview of the diversity of body structure in vertebrate animals. The variation in body structure seen amongst vertebrates will be investigated from evolutionary, functional/biomechanical, and human health perspectives through lectures, online activities, and face-to-face laboratory activities. Through this course, students will develop a better understanding of the vocabulary of anatomy, the structural design of vertebrates, a basic understanding of the biomechanical underpinnings of these structures and how vertebrate structure, phylogenetic history and function combine to create the diversity of forms seen in nature.

**Course Structure:** This is a 4-credit course including a lab.

**Lecture:** Lecture will be held in the Noyes Laboratory, Rm 217, three days a week, MWF from 11am-12pm. There will also be lecture quizzes and other activities posted on the Canvas site to be done online. Aside from lectures, you should plan on devoting 6-7 hours a week on course work, although specific times will vary depending on your input, needs and personal study habits.

**Labs:** Natural History Building, Rm 4002. 1 day a week/3 hours, NOTE: labs will require the dissection of preserved cat tissues. There is no way to complete the course successfully without dissection.

### **SLO:**

1. Learn basic anatomy and terminology for a series of vertebrate organ systems.
2. Explore the developmental origin of several anatomical systems
3. Compare and contrast the basic anatomy of each system across multiple vertebrate groups
4. Follow the evolution of certain anatomical structures across vertebrates.
5. Analyze the function of several anatomical system utilizing simple biomechanical models
6. Identify the role of different anatomical systems in the integrated whole of the vertebrate body.
7. Apply knowledge learned to human health issues associated with anatomy.

**Prerequisites:** IB150, or consent of instructor.

**Requirements met:** IB major, upper level lab course.

**Lecturer:** Dr. Philip Anderson  
Office Location: Vivarium 202A  
One on One support: By appointment  
Email: [andersps@illinois.edu](mailto:andersps@illinois.edu)

I will aim to respond to course-related emails within 24 hours except on weekends. Keep this in mind when emailing questions concerning assignments with deadlines.

**Lab Instructor:** Joanne Manaster  
Email: [joannema@illinois.edu](mailto:joannema@illinois.edu)  
Joanne manages the laboratory and addresses concerns related to lab teaching, the practical exams, and lab absences.

**Teaching Assistants:** Ratna, Kasey and Avi are graduate students in the School of Integrative Biology. They teach the laboratories and help create, set up, proctor, and grade the practical exams as well as help to grade the lecture exams.

## **Communication Plan**

As an enrolled student, you will have access to the course from your Canvas dashboard. It is also accessible here: <https://canvas.illinois.edu/courses/36707>

### What you will find on Canvas:

- The syllabi for lecture and lab
- Lecture quizzes, activities and exams.
- Videos of dissection and affiliated quizzes
- Weekly pre-lab video quizzes and lab manual quizzes
- Updates from the instructors and TAs.
- Resources, lecture notes and handouts.
- Course gradebook

Announcements will be updated every week on the site and will be made visible on the main page. All schedules and deadlines will be posted both on the announcements page when they are approaching and at all times on the individual module pages at all times. Announcements will also be made during lecture, but everything announced there will also be posted on the site.

If you have an inquiry, you can use the emails listed for each instructor. Their bio section will also note how fast to expect an answer. If you would like further one-on-one discussion with Dr. Anderson please reach out via email to set-up an appointment. Dr. Anderson can also meet with small groups of students for discussion if you prefer.

As with all communication in a class, the expectation is for students to act in a professional and kind manner when interacting with both each other and with instructors. A full description on netiquette is listed below.

## **Time and Place**

Lecture classes will meet from 11-11:50AM on MWF in the Noyes Laboratory Rm 217. After each lecture, there will be a short (~5 question) lecture quiz posted on the Canvas site. Quizzes should be completed by noon the day after the lecture. These quizzes are worth 5 points apiece and will help ensure that students are following along with the material.

Lab classes Students will begin the week by watching an asynchronous lesson of the TA dissecting and showing the structures and explaining the background of the material. This will be of tremendous help to do this activity before the lab course. There is a quiz associated with this activity, and those who complete it before the lab will receive 10 points.

Then, students will attend their assigned lab section.

<b>Section</b>	<b>Day</b>	<b>Time (original)</b>	<b>TA</b>
AB1	Monday	2-4:50pm	Kasey
AB2	Tuesday	9-11:50am	Avi
AB3	Tuesday	2-4:50pm	Ratna
AB4	Wednesday	2-4:50pm	Kasey
AB5	Thursday	9-11:50am	Avi
AB6	Thursday	2-4:50pm	Ratna

**Expectations:** Assessment in this course will include a combination of formative and summative

assessments. Some are evaluated based on the answers given, others are evaluated based on participation. A full grade breakdown follows:

### **Grade Breakdown:**

Lecture Attendance	40pts
Lecture Quizzes	130pts
Weekly activities	120pts
Module Exams	360pts
Lab Practical 1	20pts
Lab Practical 2	40pts
Lab Practical 3	70pts
Lab Practical 4	70pts
Pre-lab video/lab manual quizzes 10 quizzes, 10 points each if taken before your lab section	100pts
Lab Participation	50 pts
<b>Total</b>	<b>1000 pts</b>

### **Lecture Attendance**

- Worth 40 points.
- Evaluated using iClicker activities during lecture. The course supports both physical iClickers and the iClicker Mobile App. Instructions for setting-up the mobile app will be posted on the Canvas site.
- To earn the 40 points, students must attend at least 75% of all lectures over the course of the term.
- We will take into account COVID-related absences, as outlined under policies below, when calculating this grade.

### **Lecture Quizzes**

- Worth 130 points total (5 points for each of 26 lectures)
- Available on Canvas to be taken AFTER the lecture to evaluate comprehension of the lecture material.
- Each quiz will close by noon the day following the lecture.

### **Weekly activities:**

- Worth 120 points total (20 points each for 6 activities)
- During certain weeks there will be an online activity to complete related to the current module subject.
- The form of activity will vary but may include directed lessons in Canvas, video activities and digital exercises. These activities will include some form of deliverable content to hand in that will be worth points.
- These will always be due Friday at 5pm the week they are assigned.

### **Module Exams:**

- Each module will culminate in an exam.
- These exams will be combination of multiple choice and essay and be worth 60 pts apiece (360 pts overall) and be designed to be completed during a normal class period.
- Most of these exams will fall on Fridays, so be aware that attendance to Friday lectures will be mandatory.

- The exams will cover material from the lectures and are not cumulative.
- There will be no final exam.

### Pre-lab video quizzes

- Worth 100 points total (10 points for each of 10 lab sessions)
- Available on Canvas to be taken BEFORE the class to ensure you are prepared to engage with the material in the lab.
- All quizzes will be available from the prior Friday at 8am.
- \*\*Exception for Week 1, the quiz will be available from Sunday 8/20, with full points possible even after your lab session.

### Lab Participation

- Worth 50 points total, (5 points each for 10 lab sessions), you earn points for doing the following:
- Attending the class
- Remaining for 90 minutes to 3 hours.
- Having all supplies and safety gear.
- Participating in dissection.
- Assisting with clean up.

### Lab practical exams

- There will be four lab practicals, worth 20pts, 40 pts, 70pts, and 70 points respectively. Practical will not be cumulative.
- There will be no final practical.
- Practical exams will be administered during a time choice on Wednesday or Thursday evening. For each practical, each exam session will have equivalent but different questions.
- Practical exams will be held in the laboratory space.
- The format of the exam will be short answer identifying the structure with a follow-up question to be answered.
- In order to participate in the practical exam, students must attend all prior labs, or have made arrangements with Joanne and their TA to make up the lab in case of an absence.
- Make-up Practical exams are offered only for extreme documented excuses. Contact Joanne Manaster at [joannema@illinois.edu](mailto:joannema@illinois.edu) to make arrangements.

Week beginning	Practical information
4-Sep Wed or Thurs 4-5, 5-6 or 6-7pm	Practical 1, No regular lab <b>20pts</b> <i>Covers the skeleton</i>
25-Sep Wed or Thurs 4-5, 5-6 or 6-7pm	Practical 2, No regular lab <b>40pts</b> <i>Covers musculature</i>
23-Oct Wed or Thurs 4-5, 5-6 or 6-7pm	Practical 3, No regular lab <b>70pts</b> <i>Covers cardiovascular and respiratory</i>
27-Nov Wed or Thurs 4-5, 5-6 or 6-7pm	Practical 4, No regular lab <b>70pts</b> <i>Covers digestive, abdominal cardiovascular, urogenital, nervous system</i>

**Contesting Grades:** If you feel that your assignment or exam has been graded inappropriately, you are welcome to contest grades via a written statement within one week of receiving the graded assignment. To contest a grade, you must submit a written statement via email of what you believe was graded incorrectly and why the grade should be altered. We will not consider any contest of grades submitted after one week.

Note, that contesting a grade means the item in question will be completely regraded, which may result in a lower grade overall.

### **Course Grading Philosophy**

1) I do not 'curve' individual exams or assignments. Instead, I will assign grade cut-off points based on the distribution of student point totals at the end of the semester.

2) I use a scale from A to D including +/- (although I do not give A+ or D-). The starting cutoff points for each letter are standard (for example: 89-88% for B+, 87-83% for a B and 82-80% for a B-). Depending on the distribution of points at the end of the semester I **may** drop the cut off points slightly (e.g., 88% might become the A- cut off) but **I will not raise** the cut-offs.

**Textbook:** There is no textbook for the lecture portion of the course. Any required readings for a lecture will be posted on the Canvas site as a pdf. Students who desire supplementary reading for further detail can access the following textbook:

*Kardong KV 2014. Vertebrates: Comparative Anatomy, Function, Evolution, 7<sup>th</sup> ed.*

Note that all exams will be based on the lecture and assigned readings alone, Kardong 2014 is suggested purely as a supplement and is not required. Several copies are on hold for the class at the ACES Library and available for purchase from the bookstore.

### **Lab Manual Required**

Students must obtain a lab manual as it will be the guide for the lab portion. We are using a new one this year so borrowing from past year's students won't be possible.

*Sebastiani, A and Fishbeck, D 2005. Mammalian Anatomy: The Cat 2<sup>nd</sup> ed.*

### **Supplies**

#### **REQUIRED**

- Dissection Kit – students must supply their own basic dissection kit
  - Can be found at the bookstores or online.
- One-inch binder to hold the lab manual pages and handouts.
- Lab Coat – A lab coat protects your clothing.
- Closed Toe Shoes—scalpels are sharp!
- Safety glasses or goggles if you don't wear glasses.
- MASK, Optional, and changeable should the COVID situation warrant and the CDC and university update their policy.

We will provide latex-free gloves for use in the lab each week.

#### **SHARING VIDEOS AND DISSECTION IMAGES IS PROHIBITED**

**DO NOT SHARE DISSECTION IMAGES ON SOCIAL MEDIA.** As most of you are aware, there are people who are sensitive and will be shocked by these images or those passionate about animal rights and may wish to create havoc with our facility. For the safety of students and personnel, and the protection of our lab space, be mindful of how you share any photos you take. *Students found in violation of this policy may face a penalty.*

## Lecture Schedule (Fall 2022)

Week beginning	Topic	Exam
21-Aug	Intro	--
28-Aug	Skeletal System 1	--
6-Sep	Skeletal System 2	Exam 1
11-Sep	Musculature 1	--
18-Sep	Musculature 2	Exam 2
25-Sep	Cardiovascular 1	--
2-Oct	Cardiovascular 2	Exam 3
9-Oct	Respiratory	--
16-Oct	Digestive	--
23-Oct	Respiratory/Digestive health	Exam 4
30-Oct	Urogenital 1	--
6-Nov	Urogenital 2	Exam 5
13-Nov	Nervous system 1	--
20-Nov	<b>Thanksgiving, NO LECTURE</b>	--
27-Nov	Nervous system 2	--
4-Dec	NA	Exam 6

## Approximate Lab Schedule (subject to change)

Week beginning	Topic	Online Quiz
21-Aug	Skeleton	Quiz 1**
28-Aug	Cat skinning	Quiz 2
6-Sep	<b>Practical 1, No regular lab 20pts</b>	--
11-Sep	Musculature 1	Quiz 3
18-Sep	Musculature 2	Quiz 4
25-Sep	<b>Practical 2, No regular lab 40pts</b>	--
2-Oct	Cardiovascular, thoracic	Quiz 5
9-Oct	Respiratory	Quiz 6
16-Oct	Digestive	Quiz 7
23-Oct	<b>Practical 3, No regular lab 70pts</b>	--
30-Oct	Cardiovascular, abdominal	Quiz 8
6-Nov	Urogenital/reproductive	Quiz 9
13-Nov	Nervous system	Quiz 10
20-Nov	<b>Thanksgiving, NO LAB</b>	--
27-Nov	<b>Practical 4, No regular lab 70spts</b>	--

- Video Quizzes are worth 10 points each if taken before the start of YOUR lab session and are available from 8am the Friday prior to the week's lab.
- \*\*Exception for Week 1, the quiz will be available from Sunday 8/20, with full points possible even after your lab session begins.

## **Attendance Policies:**

**ATTENDANCE AT LECTURE IS REQUIRED.** Exam material will be derived from lecture material. Therefore, there is no substitute for regular lecture attendance. If attendance is not possible, it is the responsibility of the student (i.e., YOUR responsibility) to contact the instructors or TA's to arrange for any materials distributed in class. If you miss a lecture, you should contact another student in the class to obtain lecture notes.

**ATTENDANCE IN LAB IS REQUIRED.** You must attend your lab section and ONLY your lab section, unless prior approval is received from Joanne. Completion of lab activities will be essential to your success on lab practicals. If a student does not attend labs or arrange for a make-up in case of an absence, they will not be permitted to take the corresponding Practical Exam.

**YOU WILL NOT BE PERMITTED** to make up exams or practicals if missed, unless you notify the instructors or TAs of your absence and bring a note from McKinley for illness excuses. For non-illness excuses, you must notify the instructors or TA of your absence at least ONE WEEK ahead of time. Rescheduling exams and practicals is entirely at the discretion of the instructors. Make up exams and practicals will ALWAYS differ from the regular exam, and may be in a different format than the regularly scheduled exam (i.e., written or oral exam). Make up practicals are especially difficult to schedule, and as such will be oral exams if made up.

## **COVID-SPECIFIC GUIDELINES**

### **Attendance**

Following University policy, all students are required to engage in appropriate behavior to protect the health and safety of the community. Students are also required to follow the campus COVID-19 protocols.

Students who feel ill should not come to class. In addition, students who [test positive for COVID-19](#) or have [had an exposure that requires testing and/or quarantine](#) must not attend class. The University will provide information to the instructor, in a manner that complies with privacy laws, about students in these latter categories. These students are judged to have excused absences for the class period and should contact the instructor via email about making up the work.

### **Face coverings**

Face coverings are not required during **lecture**. However, it is expected that students will respect others' decisions in terms of whether they do or do not wear a face covering. Please refer to the University of Illinois Urbana-Champaign's COVID-19 website for [further information on face coverings](#).

Face coverings are not required during **LAB**. Please respect your classmates' decision either way. Note, however, that students work in pairs in close proximity over the dissection projects, which has implications for the spreading of any airborne infectious agent. Students form their own pairs (we do not assign). If you prefer to mask and wish to be paired with a mask wearing partner, seek them out during the first lab period.

## **COURSE POLICIES**

All students are assumed to have read and understood the "Code of Policies and Regulations Applying to All Students," University of Illinois, and will be expected to act accordingly.

The Code is available online at: <http://www.admin.uiuc.edu/policy/code/index.html>

**Academic Integrity:** According to the Student Code, 'It is the responsibility of each student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions.' Please know that it is my responsibility as an instructor to uphold the academic integrity policy of the University, which can be found here:

[http://studentcode.illinois.edu/article1\\_part4\\_1-401.html](http://studentcode.illinois.edu/article1_part4_1-401.html)

Academic dishonesty may result in a failing grade. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

**Disabilities and Religious Observances:** Please contact your instructors or TAs during the first week of classes to make requests for disability accommodations or observation of religious holidays.

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 333-4603, e-mail [disability@illinois.edu](mailto:disability@illinois.edu) or go to the [DRES website](#). If you are concerned you have a disability-related condition that is impacting your academic progress, there are academic screening appointments available on campus that can help diagnosis a previously undiagnosed disability by visiting the DRES website and selecting “Sign-Up for an Academic Screening” at the bottom of the page.

**Family Educational Rights and Privacy Act (FERPA) Statement:** Any student who has suppressed their directory information pursuant to *Family Educational Rights and Privacy Act* (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <https://registrar.illinois.edu/academic-records/ferpa/> for more information on FERPA.

**Sexual Misconduct Policy and Reporting Statement:** The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University’s Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: <https://wecare.illinois.edu/resources/students/#confidential>

Other information about resources and reporting is available here: [wecare.illinois.edu](https://wecare.illinois.edu).

**Inclusivity Statement:** The effectiveness of this course is dependent upon the creation of an encouraging and safe classroom environment. Exclusionary, offensive or harmful speech (such as racism, sexism, homophobia, transphobia, etc.) will not be tolerated and in some cases subject to University harassment procedures. We are all responsible for creating a positive and safe environment that allows all students equal respect and comfort. I expect each of you to help establish and maintain an environment where you and your peers can contribute without fear of ridicule or intolerant or offensive language.

**Support Resources and Supporting Fellow Students in Distress:** As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regards to their well-being or yours, we encourage you to refer this behavior to the Student Assistance Center (1-217-333-0050) or online at [odos.illinois.edu/community-of-care/referral/](https://odos.illinois.edu/community-of-care/referral/). Based upon your report, staff in the Student Assistance Center reaches out to students to make sure they have the support they need to be healthy and safe.

Further, as a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a



challenge and that it is interfering with your coursework, you are encouraged to contact the [Student Assistance Center \(SAC\)](#) in the Office of the Dean of Students for support and referrals to campus and/or community resources. The SAC has a Dean on Duty available to see students who walk in, call, or email the office during business hours. For mental health emergencies, you can call 911 or contact the Counseling Center.

**Netiquette Statement:** In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. The following are tips for interacting online via e-mail or discussion board messages, adapted from guidelines originally compiled by ChuqVon Rospachand Gene Spafford (1995):

- Remember that the person receiving your message is someone like you, deserving and appreciating courtesy and respect
- Avoid typing whole sentences or phrases in Caps Lock
- Be brief; succinct, thoughtful messages have the greatest effect
- Your messages reflect on you personally; take time to make sure that you are proud of their form and content
- Use descriptive subject headings in your e-mails
- Think about your audience and the relevance of your messages
- Be careful when you use humor and sarcasm; absent the voice inflections and body language that aid face-to-face communication, Internet messages are easy to misinterpret
- When making follow-up comments, summarize the parts of the message to which you are responding
- Avoid repeating what has already been said; needless repetition is ineffective communication
- Cite appropriate references whenever using someone else's ideas, thoughts, or words

## Emergency response recommendations

The Department of Homeland Security and the University of Illinois at Urbana-Champaign Office of Campus Emergency Planning recommend the following three responses to any emergency on campus: **RUN > HIDE > FIGHT**

**ONLY FOLLOW THESE ACTIONS IF SAFE TO DO SO.** When in doubt, follow your instincts—you are your own best advocate!

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### RUN

Action taken to leave an area for personal safety.

- Take the time now to learn the different ways to leave your building **BEFORE** there is an emergency.
- Evacuations are mandatory for fire alarms and when directed by authorities. **No exceptions!**
- Evacuate immediately. Pull manual fire alarm to prompt a response for others to evacuate.
- Take critical personal items only (keys, purse, and outerwear) and close doors behind you.
- Assist those who need help, but carefully consider whether you may put yourself at risk.
- Look for **EXIT** signs indicating potential egress/escape routes.
- If you are not able to evacuate, go to an Area of Rescue Assistance.
- Evacuate to Evacuation Assembly Area and remain until additional instructions are given.
- Alert authorities to those who may need assistance.
- Do not re-enter building until informed by emergency response personnel that it is safe to return.

#### ACTIVE THREAT:

- If it is safe to do so run out of the building. Get as far away as possible. Do not go to the Evacuation Assembly Area.
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### HIDE

Action taken to seek immediate shelter indoors when emergency conditions do not warrant or allow evacuation, such as for severe weather.

- Take the time now to learn the different ways to seek shelter within your building **BEFORE** there is an emergency.
- If you are outside, proceed to the nearest protective building.
- If sheltering-in-place due to severe weather, proceed to the identified Storm Refuge Area or to the lowest, most interior area of the building away from windows or hazardous equipment or materials.

#### ACTIVE THREAT:

- Lock or barricade your area.
  - Get to a place where the threat cannot see you.
  - Place cell phones on **silent**.
  - Do not make any noise.
  - Do not come out until you receive an Illini-Alert advising you it is safe.
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### FIGHT

Action taken as a last resort to increase your odds for survival.

#### ACTIVE THREAT:

- If you cannot run away safely or cannot hide, **be prepared to fight with anything available to increase your odds for survival.**
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