Ornithology is the study of birds, including not only the study of bird diversity, but also the comparative study of avian anatomy, physiology, behavior and ecology. Birds are everywhere, in every (non-submerged) habitat you can imagine, including habitats dominated by humans – they are accessible to all of us, wherever we are, and provide insights into the natural world around you, if you know how and where to look. We’ll practice those observation skills in this class. And as you’re probably aware, scientists are not alone in their love of birds; birds have captured the poetic imagination for millennia, singing and flying their way into poems and songs and metaphor. We will pay particular attention to the flight and voices of birds in this course.

Course overview (schematic version):

- **Each week...**
  - **Observe** birds where you are
  - **Weekly lab meetings** (Zoom, 9am Fridays)
  - **Reflect on observation strategy**
  - **End of semester, we’ll all report on what we’ve learned**

- **Weekly**
  - **Quiz due Friday, 6am**
  - **Reflect, learn, take 2nd chance quiz if appropriate**
  - **Online VoiceThread Lectures**

- **Twice across semester:**
  - Learn about group of birds (typically an Order)
  - Teach class about that group of birds (you’ll submit draft materials before your final presentation)
  - Take Quiz on the groups of birds presented so far

We’re all starting at different points in our bird observation skills, and that’s fine! We all can improve with practice & reflection...
Course overview:

All lectures are online. Each week, the lectures focus on a particular topic in ornithology, and there is a quiz due on this material each Friday, 6am. Quizzes are open-book and open-note.

Learning is a process, not a “one & done”. After taking the on-line quiz, think about the material – did you understand it as well as you thought? Clear up any questions, and you can take a 2nd version of the quiz if you want; first and second versions will be averaged.

The lectures present “foundational” ornithology – the basics, in other words. To see what the field is up to right now, we’ll sometimes also read primary literature articles related to that week’s topic. Our “discussion” of these articles will be online asynchronous: I’ll have a posted version of the article on which you can comment directly, and you’ll write brief reflections on the Discussion Board to summarize your thoughts about the article.

Because we can’t meet in person, you’ll do weekly observations of birds each week on your own. Birds are everywhere! Once you start looking for them, they’ll be easy to find. We’ll practice bird observation and identification skills by seeing what we can see on our own, then meeting each week to discuss what we saw, and what we might want to look for next time.

We’ll also be paying attention to the bird sounds all around us – and all around the world. We’ll learn some basic sound analysis methods, and then apply them to either bird sounds we record ourselves, or to bird sounds around anywhere in the world.

After a few weeks, you’ll set some goals for yourself with regard to your bird observation skills. You’ll give a brief presentation at the end of the semester summarizing what you’ve learned, and reflect on the degree to which you’ve met your goals.

And lastly, you’ll teach each other about the diversity of birds, by completing 2 “taxonomy projects”. In each of these projects, you’ll research a group of birds, learn what unites this group and what distinguishes them from other groups, and present that information to the class.

You’ll submit drafts before presenting the final information to the class, to make sure you’re on the right track. Drafts will be graded.
DETAILS:

Course goals:
To learn about bird diversity, including distinguishing characteristics of major groups and comparative anatomy, physiology, behavior and ecology;
To learn to connect levels of analysis in biology – that is, using birds as a model, learn how genetics affects physiology, how physiology affects behavior, how behavior and physiology affect ecology, etc.
To learn the characteristics and natural history of local species;
To acquire skills for identifying and observing new species, wherever you end up after the CoC;
To notice birds where you never noticed them before; to be aware of the birds in your world and to be aware of how your behavior affects the birds around you.

Texts:
Ornithology (Frank B. Gill, 4th Edition; earlier editions also ok but confirm chapter #s and figures)
Readings from primary literature will also be assigned.

About Attendance: Active participation is essential. But most of this class designed to be very flexible, so you can get the work done when you are best able to get the work done. The attendance expectation is to keep up with the weekly work expectations, and to attend the weekly lab meetings on Zoom (Fridays, 9am).

It can be really tempting to let things slide in an asynchronous class! Make a schedule for yourself, and stick to it. If you run into problems, or if you fall behind, or if you are unable to attend the lab meetings, please just let me know. I’m happy to make accommodations. We’re in the middle of a global pandemic; I do not need to see any documentation.

About being online:
Since we’ll be working on-line rather than face-to-face, it’s critical that we all use our best (i.e., most respectful) “netiquette”. When commenting or responding to each other’s posts or questions, remember that “tone” can be difficult to judge on-line.

Required technology:
Hardware: Computer with high-speed internet access, sound card, and speakers or headphones.
(Microphone and camera are recommended but not required; you can participate in Zoom sessions using the chat feature if you prefer.)
Software: Browser compatible with Oaks (Firefox or Chrome recommended), Adobe Reader (or Preview on Macs). You may also find Microsoft Word and Excel (or Google docs & sheets) useful.

Online lectures: I use VoiceThreads (VTs) for online lectures. You can access these through Oaks. Sometimes there will be questions embedded in the lectures that you answer with a comment.

The amount of lecture time in an in-person class each week is 2.5 hrs. But watching lectures online is more exhausting and it can be harder to stay focused. That’s why I’ve limited the total VT time each week to 1.5-2 hours, and will supplement with primary literature articles.
Pace yourself when watching the VTs! I strongly recommend NOT trying to complete them in one sitting. The advantage of recorded lectures is that you can set the time and pace for working through them. Pause when you need to. Rewind or re-watch when you need to. Take breaks.

If having copies of any of the figures used in the VTs helps with taking notes, they’re available on Oaks.

Zoom recordings: Please note: by attending and remaining in this class, you are consenting to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class. I like seeing everyone but respect your privacy – camera use during zoom sessions is at your discretion.

Grades & related stuff:

Your final grade is based on 4 main categories of things: Quizzes, Taxonomy Projects, Activities, and the Final Exam. Each of these categories is equally weighted.

Quizzes:
There will be **13 Lecture Quizzes** (one due every Friday, 1/22-4/16, at 6am), each focused on a different central topic in Ornithology. Lecture Quizzes will be primarily multi-select (“select all that apply”) / multiple choice format, with some matching, fill-in-blank, short answer, or other format questions. Quizzes are all open-note / open-book.

I may be old-fashioned, but I have this notion that the whole point of all this is to learn stuff. And we all know that we don’t always learn stuff the first time we hear it or think about it. So, after each quiz is graded, you’ll have the opportunity to review the quiz and material, and decide if you’d like a second attempt. **“Second attempt” quizzes will be a new quiz on the same material, and your new ‘topic quiz score’ for that topic will be the average of the first and second attempts.** No “tokens” (see below) are necessary for second attempts, and while you only get 1 “second attempt” / quiz, you can do “second attempts” for as many quizzes as you want. Second attempts need to be requested within 1 week of the due date for the “first attempt” quiz, and will be due 1 week following the request (or by the end of the semester, whichever comes first).

There will be **2 Taxonomy Quizzes** (covering avian diversity & taxonomy). Taxonomy Quizzes will be similar in format to the Lecture Quizzes. However, there are no “second attempt” option for Taxonomy Quizzes.

Taxonomy Projects:
You’ll complete 2 taxonomy projects across the semester (Taxonomy 1 and Taxonomy 2). For each, you will **research an assigned groups of bird, and present these birds to the class** (in our Zoom meetings). Your presentations will include a basic summary of the distinguishing characteristics of this group of birds: what unites them as a group, what distinguishes the families within the group, where they live (both distribution and habitat), how they make a living, etc. You will organize and present this information to the class as an oral presentation with a supporting hand-out that has a table summarizing the critical information. Before your presentation, you will submit a draft of your presentation materials (including hand-out); you will be graded both on your draft and final presentation. The information from these presentations will be the basis of the Taxonomy Quizzes.

Final Exam:
The Final Exam will be **cumulative**, and will cover taxonomy as well as other class material; it may also include some bird identification and/or sound material (think of it as a combined lecture/lab final exam). **The taxonomy portion of the final exam will be more than a re-hashing of previous material; in particular, you will be asked to synthesize taxonomic material from the previous 2 Taxonomy Quizzes.**

The format of the Final Exam will be similar to the quizzes, and it will also be open-book / open-note.

Activities:
Activities include all the activities that are part of the class: answering questions embedded in VTs; commenting on and writing reflective summaries of primary literature articles; weekly participation in reporting and commenting on observations; lab assignments; final presentation. Some activities will be
“low-stakes” – that means you get a point for completing the activity, but the activity is not graded for content or “correctness”. Other activities will be graded based on meeting specific “specifications” (see below).

Grade scheme:
The grading in this class is based on a different philosophy than you may have encountered in other classes: rather than assign a certain number of points or % value to different activities in the class and then having a formula to calculate the grade, we’re going to use a ‘specifications’ grading scheme. Ideally, this type of grading is more transparent (you always know what your grade is, without calculating any weighted or partial averages); allows you to target your efforts with maximal efficiency (no more wondering ‘how much will it change my grade if I do X?’); and removes arbitrary point schemes (‘what’s the difference between an oral presentation that’s a 95% vs. a 93%?’). Philosophically, these grading schemes are also more akin to what we do in the professional world: if your work meets the specifications, then you get credit for it. If it doesn’t, you don’t. There’s not a lot of partial credit in the professional world. Or as Yoda says: “Do or do not. There is no try”

The table below next page outlines what you need to do to receive different grades in this class. Note that what “meeting specifications” means for each assignment will be outlined in much more specific detail in the assignment information.

When scores fall into more than one column, averages are used (for example, a mix of A and B grades would be an A- or B+).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (12 LQs + 2 TQs = 15 total)</td>
<td>&gt; 90% on all OR overall ave &gt; 93%</td>
<td>&gt; 80% on all OR overall ave &gt; 83%</td>
<td>&gt; 70% on all OR overall ave &gt; 73%</td>
<td>&gt; 60% on all OR overall ave &gt; 60%</td>
<td>overall ave &lt; 60%</td>
</tr>
<tr>
<td>Final exam</td>
<td>&gt; 90%</td>
<td>&gt; 80%</td>
<td>&gt; 70%</td>
<td>&gt; 60%</td>
<td>&lt; 60%</td>
</tr>
<tr>
<td>Taxonomy Projects (total across both, including drafts &amp; final materials, presentations)</td>
<td>0-3 missed specifications</td>
<td>4-6 missed specifications</td>
<td>7-9 missed specifications</td>
<td>10-12 missed specifications</td>
<td>&gt; 12 missed specifications</td>
</tr>
<tr>
<td>Activities</td>
<td>&gt; 90% of possible points</td>
<td>&gt; 80% of possible points</td>
<td>&gt; 70% of possible points</td>
<td>&gt; 60% of possible points</td>
<td>&lt; 60% of possible points</td>
</tr>
</tbody>
</table>

Now, nobody meets specifications all the time and we all are going to forget something or get busy and miss a point here and there – that’s just life. And the point here is to learn, right? And we learn from mistakes. So, we have to build that in, somehow. To allow for mistakes that don’t doom your grade, specifications grading schemes also involve “tokens” – think of these as opportunities to erase mistakes. You all start with 2 tokens. You may exchange a token to do any of the following:

- Erase missed activity point (any activity; 1 token = 1 point)
- Erase missed taxonomy project specification (any assignment; 1 token = 1 specification)
- Drop one quiz grade (Lecture Quiz or Taxonomy Quiz; limit to 1 token only (only 1 quiz can be dropped)
- Add 2% pts to final exam (1 token only; if you have a token left at the end of the semester and adding 2% to your final exam score will help you, I’ll apply this token for you!)

The idea here is everyone needs a little grace, a second chance or forgiveness at something. But we all may need it for different things. Exchange tokens to get the extra space you need. There may also be opportunities to earn additional tokens.
### Schedule:

<table>
<thead>
<tr>
<th>Friday</th>
<th>Online lecture topic</th>
<th>Zoom lab meeting (9am Fridays)</th>
<th>What’s due? (due 6am Friday unless otherwise noted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/15</td>
<td>Intro to class, Oaks site</td>
<td>What is a bird? Why study them? Intro to bird ID</td>
<td>Watch course intro lecture, explore Oaks site; take bird ID “pre-quiz”</td>
</tr>
<tr>
<td>1/22</td>
<td>Skeleton &amp; feathers</td>
<td>Weekly observations report Intro to Sound Analysis</td>
<td>LQ (Lecture Quiz) 1: Skeleton, feathers</td>
</tr>
<tr>
<td>1/29</td>
<td>How do birds fly?</td>
<td>Weekly observations report Introduction to avian taxonomy</td>
<td>LQ 2: Flight</td>
</tr>
<tr>
<td>2/5</td>
<td>General physiology: metabolism, temperature regulation, water balance, respiration, circulation</td>
<td>Weekly observations report Superorder Paleognathae (1st taxonomy presentation, by MH)</td>
<td>LQ 3: General physiology Sign up for taxonomy projects Draft observation goals</td>
</tr>
<tr>
<td>2/12</td>
<td>Foraging anatomy, physiology, behavior</td>
<td>Weekly observations report</td>
<td>LQ 4: Foraging A&amp;P, behavior <strong>Taxonomy 1 Drafts Due</strong></td>
</tr>
<tr>
<td>2/19</td>
<td>Foraging ecology &amp; evolution</td>
<td>Weekly observations report Taxonomy 1 Presentations</td>
<td>LQ 5: Foraging ecology &amp; evolution <strong>Taxonomy 1 Final materials Due</strong></td>
</tr>
<tr>
<td>2/26</td>
<td>How do birds sing? (And why? And other topics related to acoustic communication)</td>
<td>Weekly observations report</td>
<td>LQ 6: Bird song &amp; other acoustic communication <strong>Taxonomy Quiz 1</strong></td>
</tr>
<tr>
<td>3/5</td>
<td>Plumage and other visual communication</td>
<td>Weekly observations report</td>
<td>LQ 7: Plumage &amp; other visual communication <strong>Taxonomy 2 Drafts Due</strong></td>
</tr>
<tr>
<td>3/12</td>
<td>Bird social groups: flocks vs territories vs solitary</td>
<td>Taxonomy 2 Presentations</td>
<td>LQ 8: Bird social groups, Taxonomy 2 Final materials Due</td>
</tr>
<tr>
<td>3/19</td>
<td>Reproduction 1: copulations, nests, eggs</td>
<td>Weekly observations report</td>
<td>LQ 9: Introduction to reproduction <strong>Taxonomy Quiz 2</strong></td>
</tr>
<tr>
<td>4/2</td>
<td>Reproduction 3: parenting, timing of reproduction</td>
<td>Weekly observations report</td>
<td>LQ 11: Parenting, timing of reproduction</td>
</tr>
<tr>
<td>4/9</td>
<td>Migration &amp; reproductive ecology</td>
<td>Weekly observations report</td>
<td>LQ 12: Migration &amp; reproductive ecology</td>
</tr>
<tr>
<td>4/16</td>
<td>Mating systems</td>
<td>Final observation presentations</td>
<td>LQ 13: Mating systems Self-evaluation / reflection on goals</td>
</tr>
</tbody>
</table>

**Beyond this class:**

We are living and trying to learn in a time of unprecedented challenges and change. Your health and well-being, and the health and well-being of your family, are more important than any course or grade. Never doubt that. Please let me know how I can help. Here are some campus resources for you as well:

- **Mental & Physical Wellbeing:** If you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at [http://counseling.cofc.edu](http://counseling.cofc.edu) or 843.953.5640 3rd Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, visit [http://counseling.cofc.edu/cct/index.php](http://counseling.cofc.edu/cct/index.php), or meet with them in person 3rd Floor Stern Center). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health. For physical illnesses, please reach out to student health services (843.953.5520).

- **Food & Housing Resources:** Many CoFC students report experiencing food and housing insecurity. If you are facing challenges in securing food (such as not being able to afford groceries or get sufficient food to eat every day) and housing (such as lacking a safe and stable place to live), please contact the Dean of Students for support ([http://studentaffairs.cofc.edu/about/salt.php](http://studentaffairs.cofc.edu/about/salt.php)). To learn about food and housing assistance that is available to you, go to [http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php](http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php). In addition, the Cougar Pantry in the Stern Center (2nd floor) is a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need.
And now, this:

As per College of Charleston Policy 7.6.10, the following information must now appear on all course syllabi. Some of this has already been discussed above, but rules are rules, so here goes.

3.1 Course Title, Course Number, and Section Number
See top of pg. 1

3.2 Course Prerequisites or Co-requisites
Prerequisites = BIOL 111/111L, BIOL 112/112L, BIOL 211/211D, BIOL 305
Pre- or Co-requisite = MATH 250
(But you’re all already in the class, so you knew this, right?)

3.3 Semester or Academic Term
See top of pg. 1

3.4 Faculty Name/Instructor of Record and Contact Information
See top of pg. 1

3.5 Course Meeting Places and Times
See top of pg. 1

3.6 Faculty Office Hours
See top of pg. 1

3.7 Instructional Objectives and Student Learning Outcomes
I think Instructional Objectives roughly correspond to Course Goals, pg. 3. As I understand them, Student Learning Outcomes (or SLOs, if you like the jargon) are supposed to be a short list of what you’ll learn in this class. While it dismays me to think that learning in any class can be reduced to a short bulleted list, here goes:

- Classify birds to Orders based on distinguishing characteristics;
- Explain the impacts of flight on avian anatomy and physiology;
- Explain the relationships between reproductive behavior, physiology and development in birds across a range of life histories;
- Improve bird identification skills.

3.8 Attendance Policies
See About Attendance, pg. 3

3.9 Grading Policy
If this refers to the break-down of how grades are calculated, see Grading, pg. 4-5. Otherwise, my policy is to grade as carefully and fairly as I can. If you ever have any questions about any of your grades, please see me.

3.10 Required and Optional Textbooks, Equipment, and Technology
See Texts, pg. 3.

3.11 Accommodations for Students with Disabilities
Please also let me know early in the semester if you need extra time on exams, alternative assignments, or other accommodations. You can find information about our Center for Disability Services here: http://disabilityservices.cofc.edu/

3.12 Academic Integrity Statement(s)
“Academic Integrity” is a fancy way of saying honesty. I prefer to assume that folks are fundamentally honest (and generally I actually find this to be true), and let’s face it, a dishonest person is not going to be persuaded to be honest just because of some statement on a syllabus. But I need to have a statement, so here goes: be honest. I know sometimes stress can make you do things you wouldn’t otherwise do, and you might tell yourself that ‘it’s just a little cheating’, but being honest is like being pregnant: you are or you aren’t. Your integrity is worth a lot more than any grade; don’t turn yourself into someone you can’t respect for an exam or assignment you won’t even remember in a couple of years. Please note: making up data is perhaps the most egregious form of academic dishonesty in science. Don’t be that person.
Any cheating, plagiarism, etc. will be reported to the Honor Board. If you are not familiar with the College of Charleston Honor Code, you can find it in the student handbook: http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php

3.13 Program-Specific Elements
I’m not sure what this refers to, so until told otherwise, I’m not going to include anything here.