



## **ENST 215: Bats in Society: Human-Wildlife Relationships, Conflicts, & Solutions**

**Term:** Fall 2024

**Credits:** 3

**Instructor:** Shannon Browne, PhD, CWB®

**Contact:** 301-405-1193, [shannon3@umd.edu](mailto:shannon3@umd.edu)

**ELMS messaging preferred**

**Office Hours:** ANS 1459 Wed 12-1pm (or by appointment)

**Course Dates:** Aug 26 – Dec 13, 2024

**Lecture Times:** M/F 1-1:50pm

**Discussion Time:** W 1-1:50pm (section 0101) or  
W 2-2:50pm (section 0102)

**Room:** ANS 0422 (lectures) and ANS 0538 (discussion)

**Course Description:** How might an understanding of human-wildlife conflicts shape our approach to disease, ecology, and conservation? Should we care that we are losing wildlife, like bats? Across the globe, human societies have significantly harmed bat populations both intentionally and unintentionally. This course will delve into different bat population crisis causes as well as current and potential solutions, while addressing complex human-wildlife conflicts that need to be considered while solving them. During the course, students will get hands-on experience using highly sophisticated bat acoustic technology to identify bats to species-level. Lecture and discussion sections will focus on bat ecology, management techniques, newest bat identification techniques, data interpretation, and scientific presentation skills.

**Prerequisites:** none

### **Resources used in class:**

- (BOTUS) Harvey, M. J., J. S. Altenbach, and T. L. Best. 2011. Bats of the United States and Canada. The Johns Hopkins University Press. Baltimore, MD. ISBN 13:978-1-4214-0191-1
- (BIQ) Wilson, D.E. 1997. Bats in question: the Smithsonian Answer Book. Smithsonian Institution Press. Washington, DC. ISBN 1-56098-739-1.
- Both texts will be available at McKeldin Library and through ELMS course reserves. Any additional readings and materials for this class will be provided free of charge on ELMS.

**Student Learning Outcomes:** The goals of this course are for students to understand and appreciate the important role that human societies play on wildlife populations (such as bat populations). After completion of this course, students should be able to:

- Communicate verbally and in writing the important role of bat populations in providing ecosystem services in natural and human-built environments
- Analyze many human-created threats affecting bat populations
- Identify potential population management solutions
- Identify bats to the species-level using newest technologies on the market
- Evaluate population management success using modern technology
- Demonstrate mastery of parts of the scientific process
- Improve critical thinking, teamwork, and communication skills that are highly desired by employers

## Major Assignments

**Quizzes/assignments:** Rather than relying on a traditional college course approach of assessing students twice per year during two major exams constituting the majority of their course grade, this course will take a novel approach of assessing student learning each week during low stakes quizzes/assignments so that potential learning issues can be identified quickly and in more detail. Most weeks there will be a quiz associated with that week's topic due on ELMS by 11:59pm Sunday. These are your opportunities to demonstrate mastery of skills learned and practiced that week. Students may repeat any quiz/assignment once before the deadline if desired.

**Weekly class participation:** Class participation includes but is not limited to answering questions posed by the instructor, guest lecturers, or fellow students during weekly class sessions or other methods.

**Midterm & End of year team and self-evaluations:** At the beginning of the semester, students will be randomly assigned into teams and will be given a team contract template to develop on their own (with help from instructor as needed) to help them prepare for course work and succeed in weekly online quizzes/assignments and the final project (species flyer and presentation). Teamwork skills are essential in any workplace and constitute popular discussion topics during employment interviews; therefore, it is extremely helpful that students participate in teamwork projects before they graduate to help them during their professional development prior to completing their undergraduate degree. Students will grade themselves and their teammates according to their contract during the middle of the semester (Oct 13) and at the conclusion of the semester (Dec 13).

**iNaturalist (iNat) account:** Each student will develop a generic free iNaturalist account and will post screenshots of their acoustic calls to the class's iNaturalist project so that the instructor and other wildlife biologists can evaluate species identification. Students will learn how to use highly sophisticated bat acoustic detectors as well as automated identification software in addition to manually reviewing each bat species call. Students will earn full credit for posting evidence of two separate tree bat species and two separate hibernating bat species for full credit. Teamwork is encouraged and results may be shared amongst team members.

iNaturalist account development and implementation will follow [UMD Policy on Student Social Media Privacy guidelines](#).

**Zotero account:** Each student will develop their own free Zotero account and learn how to use Zotero to manage their scientific literature and other resources. Each student within each team will share their Zotero account so they can share the peer-reviewed articles and other resources pertaining to their assigned bat species.

**Flyer:** Each team will be assigned one bat species and will develop an educational flyer about its natural history, issues it faced in the past and currently, management being done to increase its population size, state/federal/worldwide status, and any recommendations for the general public. The flyer will be developed in stages beginning with an outline, progressing to a 1<sup>st</sup> & 2<sup>nd</sup> draft, then concluding in a final version. Each team will be given time during the end of the semester to work together on the flyer, discuss their outline and drafts with the instructor, and then present their final flyer to class during the Final Exam (time designated by UMD Registrar during latter half of semester).

## Grading Structure

Assignment	Points/Percentage %
Online Quizzes/Assignments	33
Weekly class participation	11
Midterm team & self-evaluation	4
Creating iNat account & posting pic to iNat account	4
Post 1 bat call & screenshot to ELMS & iNat account	2
Post 1 tree bat call & screenshot to ELMS & iNat account	2
Post 2 <sup>nd</sup> tree bat call & screenshot to ELMS & iNat account	2
Post 1 hibernating bat call & screenshot to ELMS & iNat account	2
Post 2 <sup>nd</sup> hibernating bat call & screenshot to ELMS & iNat account	2
Create Zotero account	2
Share Zotero accounts & post 4 peer-reviewed articles	6
Flyer outline	2
Flyer draft #1	2
Final draft #2	4
Final flyer	4
Final flyer presentation	8
End of year team and self-evaluation	10
<b>Total</b>	<b>100%</b>

**Grades:** All assessment scores will be posted on ELMS. Please email me through ELMS **within 1 week** of receiving your grade if you have any questions. Waiting until the end of the semester to discuss grades from earlier in the semester is not appropriate. Late work will be accepted but penalized 1 full letter grade for each day late (unless UMD approved absence is provided). Final letter grades are assigned based on total points earned by the end of the semester. To be fair to everyone, I have to establish clear standards and apply them consistently, so please understand that being close to a cutoff is not the same as making the cut (89.49 ≠ 90.00). It would be unethical to make exceptions for some and not others. Bonus point opportunities will be made available throughout the semester. To earn each bonus point, a student must attend 1 pre-approved activity that will be posted to ELMS Announcements and write 1 page directly in ELMS Assignments (Extra Credit) about what they learned **within 1 week** of attending the event (3 maximum).

Final Grade Cutoffs									
+	97.00%	+	87.00%	+	77.00%	+	67.00%	+	
A	94.00%	B	84.00%	C	74.00%	D	64.00%	F	<60.0%
-	90.00%	-	80.00%	-	70.00%	-	60.00%	-	

**Course Schedule** - subject to change, monitor ELMS page for current deadlines, changes, & announcements

<b>Week#</b>	<b>Week starting</b>	<b>Lecture Topic</b>	<b>Lecture assignment due before Fri class</b>	<b>Deliverable due Sun (week following)</b>	<b>Discussion Topic</b>	<b>Deliverable due Sun (week following)</b>
<b>1</b>	Aug 26	Welcome, Overview, Bat evolution & diversity	BIQ 79-84, BIQ 120-123, BOTUS 8-14	Quiz1	Team formation & icebreaker, iNaturalist introduction, class projects introduction	create iNat account, join iNat ENST215 project
<b>2</b>	Sep 2	(off Sep 2 Labor Day), Bat ecology	ELMS articles	Quiz2	Visit bat boxes around Clarice Smith Performing Arts Center	Post 1 picture to iNat ENST215 project & screenshot to ELMS
<b>3</b>	Sep 9	Ecosystem Services	BOTUS 57, BOTUS 17-20 & other ELMS articles	Quiz3	Ecosystem services, echolocation, & acoustics	Same Quiz3
<b>4</b>	Sep 16	Threats to bats I (human health & society)	BOTUS 114-116 & other ELMS articles	Quiz4	Bat detector types & instructions	Same as Quiz4
<b>5</b>	Sep 23	Threats to bats II (hazards & diseases)	BOTUS 59-67	Quiz5	Acoustic identification in general	Post 1 general bat echolocation call screenshot to ELMS
<b>6</b>	Sep 30	Tree bats I	BOTUS 112, 134, 150, 224 & other articles	Quiz6	Tree bat acoustics I	Post 1st tree bat echolocation call with justification to ELMS
<b>7</b>	Oct 7	Tree bats II	“ “	Quiz7	Tree bat acoustics II	Post 2 <sup>nd</sup> tree bat echolocation call with justification to ELMS; Midterm self and team evaluation inflection (Oct 13)

8	Oct 14	Hibernating bats I	BTUS 118, 138, 166, 168, 174, 176 & other articles	Quiz8	Hibernating bat acoustics I	Post 1st hibernating bat echolocation call with justification to ELMS
9	Oct 21	Hibernating bats II	“ “	Quiz9	Hibernating bat acoustics II	Post 2 <sup>nd</sup> hibernating bat echolocation call with justification to ELMS
10	Oct 28	Management I (hazards)	ELMS articles	Quiz10		Same as Quiz 10
11	Nov 4	Management II (education & outreach)	ELMS articles	Quiz11		Same as Quiz 11
12	Nov 11	Scientific method & peer-review process	ELMS online modules, Zotero video & reading		Using UMD library's WorldCat system, using Zotero, Develop flyer outline	Post screenshot of Zotero loaded on a computer while being logged into your account
13	Nov 18	Presentation skills, Start flyer outline; Discuss flyer outline with instructor during Nov 20 discussion; prepare flyer draft #1 during Friday's class	Review ELMS online module	Discuss flyer outline with instructor during Nov 20 discussion	prepare flyer draft #1 during Friday's class	Post screenshot of entire team sharing their account on Zotero & 4 peer-reviewed articles; submit flyer#1 draft
14	Nov 25	Flyer#1 discussion with instructor	Flyer#2 prep	Closed for Thanksgiving	Closed for Thanksgiving	Submit flyer#2 after returning from Thanksgiving break by Dec 5
15	Dec 2	Flyer#2 prep	Flyer#2 prep	Discuss flyer#2	Flyer#2 prep	Submit flyer#2 by Dec 5
16	Dec 9	Final flyer prep & discussion with instructor		Final flyer presentation prep		Final team and self-evaluation due Dec 13
Final Exam Week	Date TBA			Final flyer presentation		

Tips for Success:

1. **Participate.** Discussions and group work are a critical part of the course. You can learn a great deal from discussing ideas and perspectives with your peers and professor. Participation can also help you articulate your thoughts and develop critical thinking skills.
2. **Manage your time.** Make time for your learning and participation in discussions each week. Give yourself plenty of time to complete assignments including extra time to handle any technology related problems.
3. **Track your assignment deadlines.** Create an agenda book with all your courses' assignments and deadlines. Better yet, add it to your google calendar with multiple alerts so your computer and phone can remind you.
4. **Login regularly.** Log in to ELMS-Canvas daily to view announcements, discussion posts, and potential changes in schedules. You may need to log in multiple times a day when major assignments are due.
5. **Use ELMS-Canvas notification settings.** ELMS-Canvas can ensure you receive timely notifications in your email or via text. Be sure to enable announcements to be sent to you instantly.
6. **Ask for help if needed.** If you need help with ELMS-Canvas or other technology, contact IT Support. If you are struggling with a course concept, reach out to your classmates, T.A., attend online office hours, or message me via ELMS to request support.

### Course-Specific Policies

**Names/Pronouns and Self-Identifications:** The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit [trans.umd.edu](https://trans.umd.edu) to learn more. I identify as she/her/hers. You can provide your preferred name and pronouns using our class ELMS site under Account > Settings > Edit Settings > Display Name. You can provide a recorded pronunciation of your name within settings under Namecoach.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

**Communication with Instructor:** ELMS messaging: If you need to reach out and communicate with me, please send me a message via ELMS. Please DO NOT message me with questions that are easily found in the syllabus or on ELMS (i.e. When is this assignment due? How much is it worth? etc.), but please DO reach out about personal, academic, and intellectual concerns/questions. I will do my best to respond to emails within 2-3 business days. I will send IMPORTANT announcements via ELMS Announcement messaging. You must make sure that your email & announcement notifications (including changes in assignments and/or due dates) are enabled in ELMS so you do not miss any messages. You are responsible for checking your email and Canvas/ELMS inbox with regular frequency as email is the primary method of communication.

**Diversity, Equity, Inclusion, Respect:** The classroom environment must be one of diversity, equity, inclusion, and inclusion in all interactions. With a diversity of backgrounds, perspectives, and experiences, we may find ourselves in disagreement or debate with one another. As such, it is important that we agree to conduct ourselves in a professional manner and that we work together to foster and preserve a virtual classroom environment in which we can respectfully discuss and deliberate controversial questions.

I encourage you to confidently exercise your right to free speech—bearing in mind, of course, that you will be expected to craft and defend arguments that support your position. Keep in mind that free speech has its limits, and hate speech, harassment, and derogatory language is not permissible. I will attempt to create an atmosphere in which each student feels comfortable voicing their argument without fear of being personally attacked, mocked, demeaned, or devalued; students are encouraged to contact me to suggest ways in which I could improve on creating this atmosphere.

Any behavior (including harassment, sexual harassment, and racially and/or culturally derogatory language) that threatens this atmosphere will not be tolerated. Please alert the instructor immediately if you feel threatened, dismissed, or silenced at any point during our semester together and/or if your engagement in the discussion has been in some way hindered by the learning environment.

## Campus Policies

It is our shared responsibility to know and abide by the University of Maryland's policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property
- Sexual misconduct and summary

Please visit [www.ugst.umd.edu/courserelatedpolicies.html](http://www.ugst.umd.edu/courserelatedpolicies.html) for the Office of Undergraduate Studies' full list of campus-wide policies and follow up with me if you have questions.

## Academic Integrity

The University's [Code of Academic Integrity](#) is designed to ensure that the principles of academic honesty and integrity are upheld. In accordance with this code, academic dishonesty will not be tolerated. Please ensure that you fully understand this code and its implications because all acts of academic dishonesty will be dealt with in accordance with the provisions of this code. All students are expected to adhere to this Code. It is your responsibility to read it and know what it says, so you can start your professional life on the right path.

Please visit the [Office of Undergraduate Studies' full list of campus-wide policies](#) and follow up with me if you have questions.

## Resources & Accommodations

### Accessibility and Disability Services

The University of Maryland is committed to creating and maintaining a welcoming and inclusive educational, working, and living environment for people of all abilities. The University of Maryland is also committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the University, or be subjected to discrimination. The [Accessibility & Disability Service \(ADS\)](#) provides reasonable accommodations to qualified individuals to provide equal access to services, programs and activities. ADS cannot assist retroactively, so it is generally best to request accommodations several weeks before the semester begins or as soon as a disability becomes known. Any student who needs accommodations should contact me as soon as possible so that I have sufficient time to make arrangements. For assistance in obtaining an accommodation, contact Accessibility and Disability Service at 301-314-7682, or email them at [adsfrontdesk@umd.edu](mailto:adsfrontdesk@umd.edu). Information about [sharing your accommodations with instructors, note taking assistance](#) and more is available from the [Counseling Center](#).

**Student Resources and Services**

Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I hope you will come talk to me so that I can help you find the right approach to success in this course, and I encourage you to visit [UMD's Student Academic Support Services website](#) to learn more about the wide range of campus resources available to you. In particular, everyone can use some help sharpen their communication skills (and improving their grade) by visiting [UMD's Writing Center](#) and schedule an appointment with the campus Writing Center. You should also know there are a wide range of resources to support you with whatever you might need ([UMD's Student Resources and Services website](#) may help). If you feel it would be helpful to have someone to talk to, visit [UMD's Counseling Center](#) or [one of the many other mental health resources on campus](#).

**Basic Needs Security**

If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live, please visit [UMD's Division of Student Affairs website](#) for information about resources the campus offers you and let me know if I can help in any way.

**Course Evaluation**

Please submit a course evaluation through CourseEvalUM in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted to CourseEvalUM is confidential. Please go directly to the [Course Eval UM website](#) to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing through Testudo, the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.

**Copyright Notice**

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