

Tech4Wildlife Course Syllabus

[Lecture: M-F, XX:XX-XX:XX, Building Number XX]

[Lab Location: Lab Building Room Number XX]

[Office Hours (TBD): Tentative: M-F X:XX-X:XX, Classroom Building XX]

Instructor/TAs

Email

Andrew Schulz (he/him/his)

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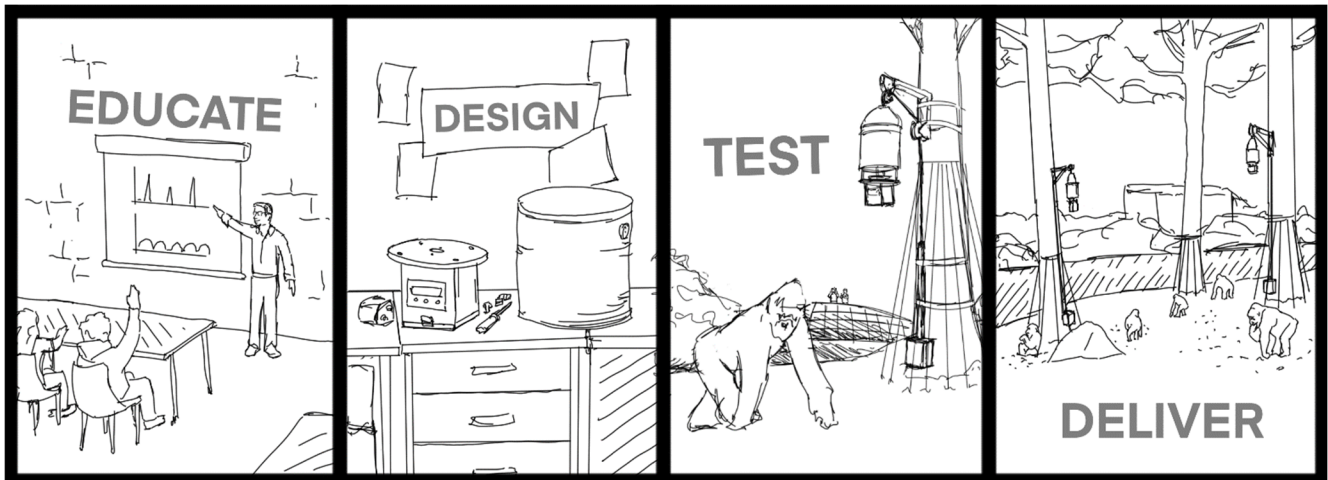
Cassandra Shriver (she/her/hers)

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Course Description:

There is a need for the development of new techniques to aide in the conservation of wildlife to prevent extinction and the decrease of biodiversity. Examples of such techniques include the use of drones to mitigate rhino poaching or low-cost equipment that can deter elephants or predators from entering rural communities. The goal of this VIP is to expose Georgia Tech students to the field of conservation, and to bring different disciplines together to aide various species. All projects are proposed and supported by real experts in the field, who can provide the background knowledge and advice as required. After this course is completed, a short curriculum will ensure that students learn how to perform background research, conduct ethical experiments with animals, and be able to document their results. In addition to the short curriculum that the class offers, students will grow by communicating with international leaders in wildlife and species conservation. Furthermore, continued participation in this VIP will allow students to take projects from an idea to a tested and implemented solution.



In this course, we use a four-step approach involving education, design, testing, and final delivery to expose students to conservation and to give them a platform to make meaningful contributions (Illustration Schulz et Al., ASEE, 2022)

Course Details

Course Goals: Upon successful completion of this VIP, you will be able to:

- Identify examples of conservation technology & human-centered design
- Review and critique current CT projects using human-centered design principles
- Design and submit an interdisciplinary CT project to an online digital maker space
- Analyze current CT practices including tracking, monitoring, software, and hardware technologies used in the industry
- Explain the historical issues in working on conservation technology and become an advocate for utilizing human-centered design to help wildlife and the environment
- Communicate with international leaders in species conservation

Course Projects

This VIP has several ongoing and new projects with partners from around the world. Each VIP member will join one of the several project teams comprised of 3 to 8 students each. Currently we are expanding the project scope into current and new projects. Currently we are working on 6 projects in the VIP class with different community partners for each project.

Course Expectations & Guidelines

While working on your projects in and outside of class it is expected you are attentive and that you will ask questions to guest speakers and/or your peers. For those students presenting or leading discussing in class it is expected that you listen to your peers and respect their wishes. To succeed in this course, I expect you to have developed an understanding of the species you are studying and the challenges that species is currently facing.

As a nature of the VIP there are several different majors working on the same project and it is encouraged for you to get outside of your major area and explore other ideas and possibilities on your research and in your journal presentation.

I expect you to be honest and fair to all your peers during the peer review process. The Graduate Assistant will be reviewing the peer evaluations and will be following up with students that are not meeting the course expectations.

Attendance and/or Participation

Attendance and participation are required to succeed in the course. Attending and participating in group discussions, class think-pair-share activities, guest speakers, etc. is required of those that do not have class conflicts. If you do have class conflicts these are not required. There will be midterm and final presentation days and it is expected that all members of the class will be in attendance for the presentations unless you have made arrangements with the instructor (Andrew) prior to the day of presentation.

The class utilizes Microsoft Teams for the course as well as for connecting with your different project teams and partners.

If you will miss class for any reason, please let the graduate assistant know. It is understood that college is stressful and that their things that happen in life so if you are not able to let the graduate assistant know beforehand please let them know in a timely manner. All students in the course will be given one mental health day where no notification of missing class is necessary. The Graduate Assistant will do their best for all courses to be recorded via Bluejeans on Canvas and posted at the end of class for those that must miss class for any reasons.

Collaboration & Group Work

There are many different items in this classroom that are group oriented. I encourage and insist you work closely with your groups for your presentations and reports. It is also important to that each student should have an individual notebook and should not copy/cheat off their peers' notebooks. Each person's notebook will be unique to them. It is expected for group members to miss occasional out of class/in class meetings.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Most of the assignments in this class are based on participation. If you forget to bring your notebook to class, then discuss with the Graduate Assistant to find a time to bring the notebook. If you miss the midterm or final presentation, then a time will be set up for you to sit down, share and present the information you worked on with the Graduate Assistant and/or Faculty mentor.

Student Use of Mobile Devices in the Classroom

Cell phones can and should be used in the classroom for helping with research, messaging contacts, Bluejeans calling missing group members, etc. During all presentations it is expected you to be attentive to the presenters.

Instructor & Teaching Assistant Evaluations

In the weeks leading up to the midterm and final presentations, anonymous surveys will be given to the VIP members to gauge in what additional tools the instructors can provide to help with your projects. These surveys will serve as a tool for improving this course and give feedback to the instructors on their involvement in the course. You are highly encouraged to help with these surveys as they have helped improve the course over the past few semesters and years.

Course Requirements & Grading

A list of the different components of this VIP course are listed below. If you have further questions about the course requirements/grading

| Assignment | Percent of Total Grade |
|---------------------------------------|-------------------------|
| Documentary Review/Journal Club (?) | 10% |
| Conservation of Species Case Study | 10% |
| Midterm Presentation | 15% |
| Final Presentation | 15% |
| Notebook (Midterm & Final Checks) | 20% |
| Final Report | 20% |
| Peer Evaluations (Midterm & Final) | 10% |
| Extra Presentation for 2-credit hours | Required to pass class* |

*The Extra Presentation is only required if you are enrolled in 2-credit hours and there are several ways over course of the semester to meet this requirement

Description of Graded Components

Rubrics for each of the following will be posted to the canvas page. You will also receive comments from the TA for each submitted assignment.

Documentary Review: This is a beginning of the semester assignment that will help you understand exactly what the class is about in terms of looking at how we address different solutions in the wildlife world using technology. If you would like to watch a documentary that is not included on the list please reach out to the instructor.

Journal Club (TBD for this semester): A journal discussion about a relevant article will occur during each *journal club/team meeting* week noted in the class timeline. Each journal club will be led by a different student, beginning with a journal club presentation by the instructor and the TA. A sign up will go out at the beginning of the course for students to sign up for specific weeks to run journal club. If you are running the journal club for that week you are expected to find an article that interests, you around the topic covered and post it to canvas a week beforehand. If you are not running the journal club, you are expected to read the material before class and come with some discussion points about how the article could be written differently. For your journal club presentation, you will be assessed based on your presentation of the methods, hypothesis, and results and your preparation of visuals. There is a folder on the Canvas site with example presentations and some guides to help you read and interpret a scientific publication.

Conservation of Species Case Study: This assignment is to help you understand the species your project group is working on. This assignment is for everyone to write a two-page reflection on a current species that is on the IUCN red list. This assignment will be given after the documentary review, and there are several options of what you can do for this assignment, including an infographic, essay, or recorded presentation. This will be graded on grammar and relevance to your group project, and must include discussions on how humans can help and how and why the species is displaced. More information on this assignment will be posted to Canvas.

Presentations: Several weeks throughout the semester, each team will be expected to give a 10-minute presentation on their progress for their project. Each team member is expected to contribute in terms of the work as well as the presentation slides. At the end of each presentation, questions will be asked by both the instructors and other peers.

Notebooks: The notebooks can be done in electronic format (word, latex, etc.) or handwritten. The notebook should follow the VIP guidelines listed here: <https://www.vip.gatech.edu/vip-notebooks>. If you would like to see an example e-notebook, there is one in the files section on canvas. You will turn in the notebook mid-semester and the TA will give comments for you to improve on as well as a temporary grade. This grade can be improved by making the listed changes.

Final Report: The final report will serve as a helpful document for the team continuing the project next semester. This report should essentially be your final presentation slides with descriptions in a word documented form that is well documented. This will assist the subsequent teams in understanding what the project is and how to continue the project. There are examples of final reports in the files portion of Canvas.

Grading Scale

Your final grade will be assigned as a letter grade according to the following scale:

- A - Excellent 90-100%
- B - Good 80-89%
- C - Satisfactory 70-79%
- D - Passing 60-69%
- F - Failure 0-59%

At Georgia Tech, grades are awarded on a scaled of A-F with no +/- grades permitted. Many of the grades in this course are based off your participation classroom team meetings, journal clubs and participating in the group meetings outside of class.

Additional Course Material

Reading/Finding Journal Publications

Part of the journal club presentation and your VIP Project is literature review. The first step is finding a journal publication. Georgia Tech Library has an online web repository for you to search: <https://libguides.gatech.edu/az.php>

If you are still having trouble using Google Scholar can also help by searching for different keywords.

Guides to reading the publications: I have included 3 to 4 documents on the canvas page for some probing questions while you are reading as well as some guides to reading and digesting the science heavy journal articles.

Starting as a graduate student I struggled digesting many publications I read, and I still do. If you are having difficulty, please let me or the TA know and we will sit down with you and go through a journal publication. At the beginning of the course we will read through different material together.

Student-Faculty Expectations Agreement

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class

Statement of Inclusivity:

As a member of the Georgia Tech community, I am committed to creating a learning environment in which all my students feel safe and included. Because we are individuals with varying needs, I am reliant on your feedback to achieve this goal. To that end, I invite you to enter into dialogue with me about the things I can stop, start, and continue doing to make my classroom an environment in which every student feels valued and can engage actively in our learning community. It is important that this classroom and office hours/meetings are a Safe Space for all communities.

Statement on Student Wellness:

Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep, and taking some time to relax. This will help you achieve your goals and cope with stress. I (Andrew Schulz) try and maintain my wellness by cooking with friends, going to Hapkido classes at the CRC, and meeting with my therapist.

All of us benefit from support during times of struggle. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is almost always helpful.

If you or anyone you know is experiencing academic stress, difficult life events, or is feeling anxiety or depression. I will personally talk with you and walk you to the university resources that can help.

If you have questions about this or your coursework, please let me know. Thank you and have a great semester.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)-894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations



Course Schedule

Below is a list of the preliminary course schedule for everyone. If you have any questions let me know.

| Week: | Date: | Topic: | Deliverables: |
|--------------|-----------------|---|---|
| 1 | January 10 | Conservation 101 & Intro to VIP – Andrew Schulz | Returning Teams Make Project Slide |
| 2 | January 17 | Animal Behavior 101 & Project Deliverables, Team Q&A (Speed Dating) – Andrew Schulz | |
| 3 | January 24 | Scientific Writing & Reading/ Journal Club Exp/ New Project Partner Connections (Teams Decided) – Andrew | Teams Decided |
| 4 | January 31 | IACUC & Conservation 102/Team Meetings | |
| 5 | Feb 7 | Zoo Atlanta Visit, Species Case Study Due | Species Case Study |
| 6 | Feb 14 | JC1/One Slide Presentations (Guest Speakers Start) | One Slide Presentation, Midterm Assessment |
| 7 | Feb 21 | JC2/Team Meetings – Midterm Prep | Mid Semester Peer Evals |
| 8 | Feb 28 | Midterm Presentations | Mid Semester Notebook Check |
| 9 | March 7 | Field Trip #2 – Kendada Building Tour | |
| 10 | March 14 | Guest Speaker 2 | |
| 11 | March 21 | Guest Speaker 3 | |
| 12 | March 28 | Guest Speaker 4 | |
| 13 | April 4 | ConservationX Labs Social Hour | |
| 14 | April 11 | Team Meetings/Prep for Finals | Final Peer Evaluations Due, CIOS/TADS Survey |
| 15 | April 18 | Final Presentations | Final Presentation Due, Extra Presentation Due* |
| 16 | April 25 | | Project Deliverables, Notebook, & Report Due |
| 17 | May 5 | | |