

Cybercrime in Wildlife Investigations

VME-6580

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Text: There are **NO** required texts for this course. *Readings from relevant literature will be provided.*

Required Equipment: Computer with reliable, high speed internet access; your preferred web browser; video player with ability to play MP4 videos; speakers and/or headphones and working sound; PDF reader. For more information on hardware and software necessary to run Canvas, visit <https://community.canvaslms.com/docs/DOC-2059> (Links to an external site.). Canvas offers mobile applications for both [Apple](#) (Links to an external site.) and [Android](#) (Links to an external site.) products. These apps may be downloaded in the respective app stores. Depending on the device and your equipment, not all Canvas features may be available on the app at this time. For more information on Canvas apps, visit <https://community.canvaslms.com/docs/DOC-1542> (Links to an external site.).

Course Description:

Students completing this course will have an understanding of the various forms of cybercrime from the perspective of wildlife investigations. The course will cover not only aspects of computer forensics, mobile device technology, email and network forensics, but also the basics of electronic evidence and processing an electronic crime scene. It will also provide a comprehensive analysis of the legal principles that apply to cybercrime and electronic trade in wildlife. Students will have learned the laws and policies applicable to privacy and digital rights and the acts and statutes governing digital technology. They will also have an understanding of how online investigations help in the fight against wildlife crime. Learning objectives will be accomplished through a combination of lecture material, readings, writing assignments, and online active discussions.

Course overview:

1. Introduction

Students gain an understanding of how the internet (cyber) is used as a tool to assist wildlife criminals to seamlessly track, cull and export wildlife products. Technology is extremely convenient and useful to the all of us, conversely it is used in much wittier ways to commit serious crimes.

2. Electronic Evidence

Electronic evidence resides in different forms and is volatile in nature. In this module, students get to understand different types of electronic evidence to look for when attending wildlife crime scenes and the different types of electronic evidence available on these electronic devices in order to assist law enforcement to safeguard the evidence.

3. Where and How to Find Electronic Evidence

Electronic evidence could reside on the poacher himself, in the poacher's vehicle, in lonely fallen drones with drained batteries lying arbitrarily in jungles or even as far as online servers half way across the globe. Students will gain a high level overview of all the different locations electronic evidence may exist. This module will also cover the different tools and techniques that could be used to find and collect digital evidence from its different sources.

4. Legislation for Electronic Evidence Access

Students develop an understanding of legislative requirements which internet and other service providers are required to comply too in order to conduct business. Knowing these requirements assists forensic vet students to understand what data they could potentially find, where it could reside, how long the data resides there and how to obtain the data from the different electronic information providers. Students will also learn the restrictions and limitations that government, corporates and the general public have in order to obtain such data.

5. Cybercrime Laws

There are many different cyber laws across the 195 countries around the globe. Students will familiarise themselves with the key laws whilst considering the wildlife law and how the two intertwine with each other when bearing in mind the digital wildlife fraud arena. Laws such as the computer fraud and abuse act are covered in order for forensic vet students can identify technicalities to assist in the prosecution of illegal wildlife traders.

6. Search and Seizures

Students will learn about protecting private information when searching, seizing, analysing and reporting suspect gathered information. We will discuss and learn about the 4th amendment, search warrants and what not to do so that one doesn't land up on the incorrect lateral of the law.

7. Mid-term Exam

8. Digital Networking Environment

The globe is interconnected. There are many online scams that individuals across the globe fall for every day. This module will cover different types of online wildlife scams and fraud conducted using these interconnected networks. Poachers and illegal wildlife dealers use these technologies in order to obfuscate and protect themselves from getting caught when trading endangered species and illegal goods online. Students will familiarise themselves with the environment in order to identify, investigate and report such suspicious online behaviours.

9. The Cyber Crime Scene

Digital forensics has been defined as the use of scientifically derived and proven methods toward the preservation, collection, validation, identification, analysis, interpretation, documentation, and presentation of digital evidence.

Students will learn what to do from arrival of the crime scene, managing the crime scene and what to look out for in order to ensure the admissibility of the electronic evidence collected.

10. Computer Forensics

Digital forensics is a relatively young science and derived as another word for computer forensics. Computer forensics is now simply a branch of digital forensics. Its meaning has expanded to include the forensics of all digital technology. Computer forensics is defined as “the collection of methods and tools used to find evidence in a computer” (Caloyannides, 2004). Digital forensics includes computer forensics, live forensics, RAM forensics, network forensics, cloud forensics, mobile phone forensics and device forensics. Digital forensics is used to assist in identifying, finding and prosecuting wildlife and other criminals. Students will learn how to conduct computer forensics.

11. Network Forensics

Students will learn to differentiate between stand-a-lone and networked computers and devices. The basics of networks will be explained and how to identify whether devices are networked or not. Handling networked devices require a very different process to stand-a-lone devices and students should further be made aware of other pitfalls faced with networked devices.

12. Mobile Device Forensics

Mobile device forensics is a fast developing domain in the field of digital forensics. It is the science of recovering digital evidence from mobile devices such as phones, GPS's and tablets in a forensically sound manner using acceptable methods to do so. With more than 77% of the population owning a cell phone, the wildlife forensic practitioner can be sure that they will come across one when attending a wildlife crime scene. They will also want to access the data from the devices to assist them with the investigation. Students will learn about mobile device forensics.

13. Beyond the Known

The dark net is a secret hidden area on the internet developed by intelligence agencies to trade secrets, however, the dark net is now being used by all types of criminals in order to stay anonymous and easily buy and sell illegal goods using the internet such as ivory, endangered species, drugs and so on. Students will learn how to access the dark net in order to search and identify illegal wildlife trading.

14. Why Do It and New Developments

Students will learn to apply Cybercrime and Wildlife Crime to the Criminological Theory. Learn about new regulations, CITES determinations and evolving technologies that could assist wildlife forensic veteran.

Topics (Subject to Change):

Module	Topic
1 – <u>Introduction</u>	Course Introduction/Expectations Syllabus What is Cybercrime? Discussion Question(s)
2 – <u>Electronic Evidence</u>	Types of Evidence Computer Forensics Evidence Authentication Evidence Standards Discussion Question(s)
3 – <u>Where and How to Find Electronic Evidence</u>	Location of Electronic Evidence Tools for Searching and Collection Discussion Question(s)
4 – <u>Legislation for Electronic Evidence Access</u>	Telecommunications/Electronic Communications Data Statutory Background Government Access to Data

	Discussion Question(s)
5 – <u>Cybercrime Laws</u>	Computer Threats Wildlife Law and its Applicability to Cybercrime Computer Fraud and Abuse Act Pro-IP, the NET Act and Other Statute Quiz 1 Discussion Question(s)
6 – <u>Searches and Seizures</u>	Privacy Protection 4 th Amendment Search Warrants Computer Searches Discussion Question(s)
7 – <u>Midterm Exam</u>	Midterm Exam
8 – <u>Digital Networking Environment</u>	Economic/Financial Crimes Scams and Fraud Online Sale of Wildlife Quiz 2
9 – <u>The Cybercrime Scene</u>	Investigations Identification and Analysis of Evidence Extracting Electronic Evidence Special Considerations Discussion Question(s)
10 – <u>Computer Forensics</u>	Overview on how to conduct computer forensics Importance of Email Investigations in Wildlife Crime Basics of Investigation Discussion Question(s)
11 – <u>Network Forensics</u>	Stand-Alone vs. Networked Devices Computer Networks Network-Related Evidence Discussion Question(s) Quiz 3
12 – <u>Mobile Devices</u>	Mobile Phones and Other Electronic Devices Mobile Device Investigations GPS Tracking Cell Tower Location Tracking Discussion Question(s)
13 – <u>Beyond the Known</u>	The Dark Net and Wildlife Products Discussion Question(s) Quiz 4
14 - <u>Why Do It and New Developments</u>	Criminological Theory as Applied to Cybercrime and Wildlife Crime New Regulations CITES Determinations Software Developments

	Discussion Question(s)
15 – <u>Final Exam</u>	Final Exam & Course Wrap-up Research Paper Due

Grading:

Exams: There will be two exams: a midterm and a final. The exams will each consist of 20 multiple choice questions worth 2 points each and two short essay questions worth 10 points each for a total of 60 points per exam. The exams will open on a Monday morning (EST) and be due by 11:59 PM EST the following Sunday. The exams will be open book and the students may use the readings and their notes from the lectures.

Weekly Discussion Questions/Projects: There will either be one-two discussion questions or a short project assigned for each Module; each discussion question is worth 2-10 points and each short project will be worth 5-20 points. Discussion questions/short projects will open on a Monday morning (EST) and be due by 11:59 PM EST the following Sunday. The discussions will remain open for the duration of the semester, but you must post at least one response by the following Sunday to receive credit. Extra credit may be given for thought-provoking, on-going discussions.

Quizzes: There will be four quizzes throughout the semester. These are open-note/book, consisting of 10 multiple choice questions worth 2 points each for a total of 20 points per quiz. The quizzes will open on a Monday morning (EST) and be due by 11:59 PM EST the following Sunday.

Final Project: There will also be a research project to consist of 8-10 typewritten pages (not including extraneous material) that will be due the last week of class, worth 200 points. It will require students to do research outside the provided materials for class.

Each assignment will have an accompanying rubric explaining the breakdown of how points are to be distributed.

MAKE-UP EXAMINATIONS WILL NOT BE GIVEN UNLESS ARRANGEMENTS ARE MADE *PRIOR* TO THE EXAM DATE. IN THE EVENT OF AN EMERGENCY AND YOU ARE UNABLE TO TAKE THE EXAM ON THE DATE IT IS ADMINISTERED TO THE CLASS, A DOCTOR’S NOTE MUST BE PROVIDED IN ORDER TO BE ABLE TO RETAKE THE EXAM.

DISCUSSION QUESTION ANSWERS OR ASSIGNMENTS SUBMITTED LATE (WITHOUT A DOCTOR’S NOTE OR SIMILAR EXCUSE) WILL NOT RECEIVE CREDIT.

Grades will be assigned as follows:
A 90% or Above

A- 88 - 89%
B+ 85 - 87%
B 80 - 84%
B- 78 - 79%
C+ 75 - 77%
C 70 - 74%
C- 68 - 69 %
D+ 65 - 67%
D 60 - 64%
D- 58 - 59%
E < 58

There will be no curve.

Additional information on the University of Florida Grades and Grading Policies may be found at: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

Grade Changes:

Grades will be changed only when a grading error has been made. If you think an error has been made, you should email the instructor as soon as possible and your concerns will be considered.

About online participation: This course is offered online, using the learning management system Canvas provided by the University of Florida. Online participation is expected throughout the course. If the course requires scheduled online activities, absences must be documented. If not documented, such behavior may result in a course withdrawal issued for the students. Students are expected to complete the assigned readings and to login to the course discussion boards and post messages to each of the threads provided in the discussion forums. Active participation in the course will count towards the final grade, and assist students with the exams and written assignments.

Lectures for the week will be posted by the Monday of the class week (barring any unforeseen computer/programming issues). Lectures are organized to build on one another. Students may view lectures as often as desired. Lectures from previous weeks will remain on the course page for the duration of the semester.

Getting Started:

To get started, briefly introduce yourself via the discussion board located in the left-hand menu on the homepage of the course. Once you have responded to the Introduction you will then go to the first module. Read through the course content and any required reading listed in the module introduction. Do not hesitate to contact your instructor at any time if you need guidance; if you are unsure about the focus of the assignment; if you have assignment questions or questions relating to the course content. If you don't tell us you need help, we can't help you!

Revision and Notes:

We will not be able to provide you with copies of course content once the course is removed from your account.

Communication:

Course Email, not the discussion board, should always be used to contact the faculty or staff if you have a problem of a personal nature. If you are having technical problems with the course content (downloads, etc) or you are unable to access your course interface, please contact us directly, and please don't spend hours trying to get something to work as this will only lead to frustration. We don't want any of you to be offline for any length of time. Contact us as soon as you can so we can check it out and help you. If you are experiencing difficulty with your access to course email then please email your course instructor directly via regular email. In that email, make sure you give your name and the name of your course. Please respond to all emails from your instructor or TA. When we email you we are usually contacting you because we want to help you. If you have a question about your grade, an exam, or assignment question, please email us and we'll be happy to help you.

Announcements:

It's VERY important that you check the site daily and read all the posted announcements/emails. I will use these areas to notify you of important information relating to content or exam changes, deadlines etc.

Attendance: Students must participate in the bulletin board discussions, and are required to visit the course website daily for important updates and bulletins.

Class Participation: Students are expected to constructively join in bulletin board discussions with appropriate preparation, to post interesting and relevant information on the class bulletin board, and to interact professionally with their classmates.

Performance Expectations: Students are expected to produce quality work of a standard comparable to any graduate level didactic course. Bulletin postings and discussions must be legible, constructive and appropriate. Students are required to think for themselves and will be expected to complete assignments that require the application of logic and reasoning skills when the answer may not be found in a book or the course notes.

Academic Honesty: All students are expected to abide by the student honor code. To review the student honor code read the information on standards of ethical Conduct at:
<http://www.dso.ufl.edu/judicial/honorcodes/honorcode.php>

Plagiarism: Plagiarism includes any attempt to take credit for another person's work. This includes quoting directly from a book or web site, without crediting the source. Sources should always be referenced, a link to the website added, or quotation marks placed around the material. However, we expect more than simply cutting and pasting in this graduate level course. Students are expected to review, evaluate and comment on material they research, rather than simply copying relevant material. Your work will be graded accordingly.

Assignments: While we understand that our students have other work and personal commitments, we expect every effort to be made to meet these deadlines. If for some reason, because of circumstances beyond your control, you are unable to meet an assignment deadline, students should e-mail the professor and explain the situation in advance. Being consistently late in submitting assignments disrupts the discussion of topics on the bulletin board and will

therefore result in loss of marks for that assignment up to a full letter grade. If you email us we will work with you around the deadline. If you have outstanding assignments at the end of the semester we will send you a follow up email as a reminder and as a means to determine your plans for completion. If you do not respond to us before the final day of classes you will be assigned a grade based on the completed assignments.

Incomplete grades: Under special circumstances, if a student is unable to finish a course before the end of the semester we may be able to assign an incomplete grade. An incomplete grade is a non punitive grade assigned at the discretion of the course instructor. In this course an incomplete grade may be assigned if 1/3rd or more of the course assignments have been completed and if the student has remained in communication with TA's and instructors throughout the course, or has made an effort to request an incomplete grade. If an incomplete grade is assigned, outstanding assignments must be completed by the end of the next semester. If the assignments are not completed in this time you will be assigned a grade based on the completed assignments.

Drop Dates: consult the UF Calendar of Critical Dates at: <http://forensicscience.ufl.edu/student-resources/critical-dates/>

Students must inform us that they are withdrawing from a course to ensure appropriate tuition reimbursement. Deleting yourself from the course roster does not officially withdraw you from a course.

Important Dates:

For Assignment deadlines - see the course Calendar.

For other important dates, consult the UF Calendar of Critical Dates and <http://www.registrar.ufl.edu/>

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting the accommodation.
