Anth 221: Introduction to Forensic Sciences
Summer Term 2018 // M-F 9 - 12 // Woods Hall 0124C

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COURSE DESCRIPTION

The role of forensic scientists can be broadly defined in terms of skills, technology, experience, research, and contributions to the literature. This course will provide a brief history of forensic sciences, an introduction to some of the techniques used, and a demonstration of some of the applications of forensic sciences. There will be several hands-on activities in the classroom. This course is not a training course, but a survey course designed to give the student some exposure to the kinds of scientific knowledge and techniques applied to the medico-legal investigation of death and other crimes.

Attendance to all lectures is mandatory since much of the material in the examinations will be based on these class lectures, and the in-class activities will not be repeated.

COURSE OBJECTIVES

By the end of the semester, students will:
1. Possess a basic understanding of the branches of forensic science and their applications in society.
2. Understand how to apply the scientific method both broadly, and in the specific medicolegal context.
3. Be able to articulate the processes of collecting, categorizing, and examining different types of evidence and data.
4. Have enhanced critical thinking and analysis skills.

REQUIRED TEXT

You will need to purchase or rent the following book for this course:


Any additional course readings will be available on the web, through the University library’s journal subscriptions, or posted to ELMS under ‘Files.’
EXAMS AND GRADING

The course will be graded on the basis of 340 points.

**Attendance/Participation (~15%)**: 50 points will be earned with class attendance, which includes *active participation* in lab exercises and class discussions. You will lose points for missing class, or for unauthorized use of technology (see below). (50 pts)

**Lab Exercises (~29%)**: In-class exercises are part of the class and are not optional. Each student is required to submit a lab write-up for each of these exercises (instructions will be given in class), worth 20 points each. Only your five highest scores will count toward your point total. The write-ups are due the by the following class, must be submitted in person, and no exceptions will be made. (100 pts)

**Critical Analysis Write-ups (~12%)**: Students are required to submit two critical analysis write-ups worth 20 points each during the course of the semester. Exact guidelines and due dates for these assignments will be given in class. (40 pts)

**Exams (~44%)**: There will be three examinations, each worth 50 points. (150 pts)

Under most conditions, no makeup examinations will be provided. Incomplete (I) grades will be given only if a student has already completed at least 75% of the coursework and has a legitimate excuse for not finishing the work on time.

A = ≥ 94.5%  
A- = 90-94.4%  
B+ = 87-89.9%  
B = 83-86.9%  
B- = 80-82.9%  
C+ = 77-79.9%  
C = 73-76.9%  
C- = 70-72.9%  
D+ = 67-69.9%  
D = 63-66.9%  
D- = 60-62.9%  
F = < 60%

COURSE/UNIVERSITY POLICIES

**Attendance**: You are expected to be in every class. With the condensed schedule of Summer term, even a single absence will make it difficult to keep up with the course. That said, I understand that circumstances beyond your control may arise over the course of our six weeks together. Please contact me if a situation arises that will prevent you from attending part or all of a course meeting.

**Tardiness/Leaving Early**: Just like it’s important for you to be *in class*, it’s important for you to be here on time and to stay for the duration. You are expected to be here at 9:00 am and to remain until we’ve finished (barring any illnesses or other emergencies). Three instances of tardiness or leaving early will count as an absence. If you miss more than twenty minutes of class (on either end, or combined), you will be marked absent. Set those alarms, folks!

**Technology**: The compulsion to attend to one or more screens makes it difficult for you to be engaged and present for the 3 hours we have together each day. While I love
technology as much as the next person, and we will occasionally utilize it for out-of-class assignments, I ask that your laptops, cell phones, e-readers, etc. remain off and out of sight during class time. Students are strongly encouraged to take notes with pen and paper. In addition to removing the temptation to cruise Facebook, track your Twitter feed, or otherwise not be psychologically present in class, a mounting body of research shows that hand-written notes are more effective for learning and retaining information than typed notes.

If you have a compelling reason for using a laptop to take notes, please come talk to me. If it is necessary to use your phone, please discuss it with me before class and leave the room before doing so; however, missing more than 20 minutes cumulatively in one class period will result in an absence.

As a matter of habit, I ask that you please turn off and put away your phones before you walk into the lab/classroom, and leave them there until dismissal. Phones may be used only OUTSIDE the classroom on breaks. You will lose attendance points for any phone/electronics sighting.

Accessibility and Accommodation: Students with special study or test-taking needs, please let the instructor know by the second class so that we can work together and make your participation in this course a rewarding one. All accommodation requests should go through the University of Maryland’s Accessibility & Disability Service office (https://www.counseling.umd.edu/ads/), and a letter be provided to the instructor no later than July 11th. If you are struggling in your classes for any reason, I urge you to contact this office as soon as possible to access the support you need to succeed.

Weather/Cancellations: In the case of inclement weather, this course will adhere to official University closings and delays which can be found on the University’s homepage (www.umd.edu) and the weather emergency phone line (301-405-7669). Any class cancellation will also be communicated via the course listserv (ELMS or UMEG).

Academic Integrity: The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.shc.umd.edu.

To further exhibit your commitment to academic integrity, remember to sign the Honor Pledge on all examinations and assignments: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination (assignment)."
COURSE SCHEDULE

The following course schedule includes weekly lecture topics, reading assignments and exam dates. Course Schedule is subject to change, pending guest speaker availability.

Day 1 (Mon. 7/9)

Syllabus & Expectations

Introduction to Forensic Sciences: What is a forensic expert, what kind of training is required, when is a forensic expert needed?

Bias in the Sciences

Readings: Course Syllabus; Article “The Reason We Reason”; Nat’l Commission on Forensic Science [DOJ] report; Chapter 1

Day 2 (Tues. 7/10)

Good Science / Fine Art of Baloney Detection: How to make a good argument and detect a bad one.

Forensic Evidence: Fingerprints

LAB 1: Fingerprint scoring


Day 3 (Wed. 7/11)

Inheritance and DNA; Race

Identity and Personal Identification; Innocence Project

Eyewitness ‘Evidence’

Video: “Don’t Talk to the Police”
Readings: Chapter 16; “Why Science Tells Us Not to Rely on Eyewitness Accounts”;
"False confessions: not as rare as you might think"; "Eyewitness Testimony Is
Unreliable… Or Is It?"

Day 4 (Thurs. 7/12)

Anthropometry; Statistics in Forensic Sciences

LAB 2: Anthropometrics and Statistical Analysis

Readings: "Race Is a Social Construct, Scientists Argue"; "What It’s Like to Be
Black in the Criminal Justice System"; Chapter 6

Day 5 (Fri. 7/13)

*EXAM I*

Forensic Evidence: Questioned Documents

LAB 5: Handwriting comparison

Readings: Chapter 18; "Individuality of Handwriting" (pdf in Course Readings)

Day 6 (Mon. 7/16)

Human Skeletal Biology: Basics; Analytical Techniques

Readings: Chapter 5; "Cognitive Bias in Forensic Anthropology"

Video: Music Hall Bones

Day 7 (Tues. 7/17)

Guest Speaker: Professor Kristin Macak, Smithsonian Osteologist and Professor of
Bioanthropology at Old Dominion University. “Health and Disease in the Human
Skeleton.”

LAB 3: Identification of human bones; determination of age and sex from the
skeleton; normal versus pathological specimens
Day 8 (Wed. 7/18)

Forensic Pathology, Coroner & ME Systems

Video: Post Mortem

‘Scent of Death’ Activity

Readings: Chapter 5

Day 9 (Thurs. 7/19)

Forensic Evidence: Hair and Fibers

LAB 4: Hair and Fiber Analysis

Readings: Chapter 11

Day 10 (Fri. 7/20)

*EXAM II*

Crime Scene Investigation, Forensic Ecology, Gun Tracing

Readings: Chapter 2, 3, 9 (pgs 187-200 only); Gun Tracing article

Day 11 (Mon. 7/23)

[Tentative: Guest Speaker: Aaron Tyler, Investigator, Prince George’s County Fire/EMS, Office of the Fire Marshal, Fire Investigations Division]

Crime Scene Investigation, continued (continue Readings from Day 10)

Readings: Chapter 17

Day 12 (Tues. 7/24)

Lecture and Tour of the Criminology and Criminal Justice Crime Laboratory, Thomas Mauriello, Director

Readings: Chapter 2; “Crime Scene Documentation: Start to Finish”

Day 13 (Wed. 7/25)
Forensic Science and Human Rights

LAB 6: Interviews for descriptive identification of missing persons (VIP form)

Readings: The Application of the Forensic Sciences to Human Rights Investigations (in Course Readings); The Scope of Anthropological Contributions to Human Rights Investigations

Day 14 (Thurs. 7/26)

Forensic Anthropology Case Studies

Other forensic sciences: Psychiatry, Engineering, Jurisprudence, Digital and Multimedia Science

Readings: Chapter 19 (pgs. 478-79, pop-out on 482, 499-500 ; Ch 1 (pg 22-24); videos at www.aafs.org/about-aafs/sections/ ; scanned reading posted to Files

Day 15 (Fri. 7/27)

*FINAL EXAM*

Breakfast Crime Scene (please bring laptops to class)