

Course: STAT 220 STATISTICAL ANALYSIS IN FORENSICS FALL 2023
Online Asynchronous Course
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FORENSICS: The Oxford English Dictionary gives us information on the derivation of the word. It originally had to do with “courts of law; suitable or analogous to pleadings in court.” In the mid 1800’s, it became linked with the word “medicine,” linking the term “medicine” to law and jurisprudence. But, when we think of forensics, we often use it in relation to crime solving.

TEXT: There will be a series of readings, some videos and no textbook. Topics may include things like: Hair and Fiber Analysis, False Memory, Eye Witness testimony, DNA. In many of these areas, we will focus on what statistics was used, was it used correctly, how could it have been improved upon and what ethical issues the statistician involved with this case would have faced.

BLACKBOARD

You are expected to use Blackboard during the semester to access course readings and to submit course assignments. It is your responsibility to have a working Hunter email.

EMAIL

If you email me, include your name, CUNY Empl number (if relevant) and use STAT 220 in the subject line of the email. I will do my best to get back to you quickly but I do not always check my email regularly over the weekend.

EXAMS

There are no exams. You are responsible for *choosing* 7 assignments, completing a *required* assignment on both the Ethics and the Utility of Statistics (the 8th assignment), and completing the final project. You will be given a number of readings and links for each assignment. You are not responsible for reading everything but you are responsible for using evidence to back up what you write about. So, if you read two of the articles, you can add information from those two in making your points. If you find *additional* sources, you may use them PROVIDING YOU INCLUDE YOUR SOURCE. Not all of your work on any one topic can be from external sources. You must use some of the materials I have provided. Don’t come up with information without saying where you got it. I am mostly grading your ideas; I expect you to have correct spelling and (reasonably) correct grammar. You should sound like a college student in these assignments. I am not grading these assignments until the end of the semester. If you are concerned that your work isn't up to my requirements, please contact me early so I can critique one of your submissions.

The Assignments are located in Course Materials. Assignments are to be submitted online. Assignments are graded according to whether they are on time, thoughtful, original and complete. ALL ASSIGNMENTS ARE DUE BY December 20 AT 11:59PM.

What is a good answer to a thought question?

Sometimes my Thought ‘Question’ will be a series of questions designed to point you to a situation I am asking you to think about. Don’t answer the separate questions as though it is a list you are to go through. THINK. A completely acceptable answer will mix your own thoughts together with references to things you read or saw in the unit you are working on. You can insert information from other sources but I am mostly looking, and want, what you think after reading/viewing materials in the unit. Giving me a lot of definitions is okay as 'filler material' but will not impress

me. There is no right or wrong answer but there is an answer that shows me you have been paying attention to the documents I have asked you to consider. What do you, a beginning statistician, think after considering the case(s) in this particular unit? Your thought question should be similar in structure to mine. Your answer to that should also be thoughtfully composed, using information that you have learned from this unit.

What is a statistical question?

You have all taken a statistics course and had to answer a number of different statistics questions. I am giving you an example:

Arsenic is toxic to humans, and people can be exposed to it through contaminated drinking water, food, dust and soil. Scientists have devised an interesting new way to measure a person's level of arsenic poisoning: by examining toenail clippings. In a recent study, "Human Toenails as a biomarker of exposure to elevated environment arsenic" scientists measured the level of arsenic (in mg/kg) in toenail clippings of eight people who lived near a former arsenic mine in Great Britain. The following levels were recorded:

0.8 1.9 2.7 3.4 3.9 7.1 11.9 26.0

Do you expect the mean or the median of these toenail arsenic levels to be larger? [ANS: The mean] Why? [ANS: The data is skewed right, therefore the mean should be larger than the median]

Calculate the mean and the median. [ANS: the median is the average of 3.4 and 3.9--3.65; the mean is 7.2125]

The statistical question you ask should be connected to the content of the unit you are working on. Both the question and the answer should be there. You can do the actual work of solving the problem on paper and then submit a picture of it as part of your answer.

FINAL PROJECT

You will design a 'unit' to be used, possibly, by students taking the course in the future. It should look like a unit, similar to mine, with your directions, etc., that could be added to the current units. You are to pick a particular topic or case--related to Forensics--that does not currently exist in this course. Find at least three (3) readings, using the Hunter libraries as much as possible, and at least one (1) video or podcast, available free of charge, related to this topic. Then write three (3) 'thought' questions and **answers** that you would want anyone using the resources of your 'unit' to be able to think about and answer. Make sure I can tell what your questions are. Submit them electronically. Note: if you are submitting papers that are available through the Hunter libraries website, you may send me the url for those papers--I will check to see if I can access the materials through the links. If you are submitting other papers, they need to be in pdf format. You will be able to submit them here just like you have been submitting your answers to my questions. This final project constitutes 20% of your grade.

GRADING

Assignments:	80%
Project	20%
	100%

FINAL EXAM TIME: There is no final exam; your final project serves as your final.

OFFICE HOURS: If you want to meet face to face, email me for an appointment.

❖ Hunter College Policy on Academic Integrity

"Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures."

❖ ADA Policy (Suggested language from the Office of AccessABILITY)

"In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230."

❖ Hunter College Policy on Sexual Misconduct

"In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>