PHI169 - 3 credits   # CRITICAL REASONING

time   Mon 6:00-8:40 PM

venue   CA-349

instructor   **Marcello Di Bello**

e-mail   marcello.dibello@lehman.cuny.edu

office hrs   Mon 4:00-5:00 in CA-365

course description[1]

you will learn the basic concepts of probability theory and then apply them to examine an investigative question of your choice

part 1 examines how you can formulate an investigative question, identify hypotheses and collect evidence

part 2 turns to probability theory as a mathematical tool to assess the strength of the evidence supporting a hypothesis

part 3 applies probability theory to answering the investigative question of your choice

course webpage

www.marcellodibello.com/phi169

course objectives

you will develop

✦ intellectual honesty and humility

✦ analytical writing skills

✦ skills for oral presentations

✦ knowledge of probability theory

✦ research skills (e.g. identifying questions and hypotheses, collecting and weighing evidence)

[1] from the Bulletin: "Introduction to the concepts and method of thinking, reading and writing analytically and evaluatively"

requirements

✦ _six_ **pass/fail assignments**

> **NB:** you must must pass all pass/fail assignments in order to pass the course

✦ _two_ **in-class exams**, each **15%**

✦ **present** your findings and write a **final report**, each **30%**

✦ **class summaries**, **10%**

grading criteria and further details about course requirements are available on the course website

assignment submission

a paper version should be handed in at the beginning of class

late policy

if an assignment is submitted late, you will not receive credit for it

course etiquette

✦ do the reading and come to class prepared

✦ disagree with me and your fellow students, but be polite

✦ don't be shy

✦ don't get distracted by the virtual world, e.g. facebook, instagram,.

no plagiarism

you may not copy the work of others without acknowledgement, or else _you will fail the class_

SCHEDULE

PART 1 - QUESTIONS, HYPOTHESES & EVIDENCE

week 1: _Aug 27_

> Questions and hypotheses

week 2: _Sept 3_

> No class — _Labor day_
>
> _NB:_ I will hold office hours on Wed Sept 5 in CA-365 from noon to 5 pm, so please stop by to hand in your pass/fail assignment #1 and talk about it and the following assignment #2

> **PASS/FAIL # 1 due Sept 5**

week 3: _Sept 10_

> No class — _Rosh Hashanah_

> **PASS/FAIL # 2 due Sept 17**

week 4: _Sept 17_

> Evidence

week 5: _Sept 24_

> Review

> **PASS/FAIL # 3 due Sept 24**

PART 2 - PROBABILITY THEORY

week 6: _Oct 1_

> Basics of probability

week 7: _Oct 8_

> No class — _Columbus day_

week 8: _Oct 15_

> Conditional probability

week 9: _Oct 22_

> Review and exam #1

> **EXAM # 1 Oct 22**

week 10: _Oct 29_

> Bayes' theorem

disability accommodation

students who have a disability which may necessitate an academic accommodation or the use of auxiliary aids and services in a class should contact the *Office of Student Disability Services* located in Shuster, room 238, phone number 718-960-8441

tutoring services

the *Academic Center for Excellence* (ACE) is the tutoring centers on campus

the ACE provides appointment based and drop-in tutoring in the humanities, social sciences, and writing, as well as general writing and academic skills workshops

to obtain information about the ACE, please visit their website at www.lehman.edu/issp or call the ACE at 718-960-8175

week 11: Nov 5

Bayes' theorem (cont.)

week 12: Nov 12

Review and exam #2

EXAM # 2 Nov 12

PART 3 - APPLYING PROBABILITY

week 13: Nov 19

Prior probabilities

PASS/FAIL # 4 due Nov 26

week 14: Nov 26

Evidence given hypothesis

PASS/FAIL # 5 due Dec 3

week 15: Dec 3

Applying Bayes' theorem

PASS/FAIL # 6 due Dec 10

week 16: Dec 10

Presentations

PRESENTATION on Dec 10

FINAL REPORT due Dec 18