

PBH 365: Applied Biostatistics for Public Health

Spring 2025

Miguel Antonio Fudolig, Ph.D.

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Course Details

Instructor Information

Office Hours: M/W 10-11 AM, 2-3:30 PM
Office: [GTW 346](#)
Email: miguel.fudolig [at] unlv.edu

Class Hours: M/W 11:30-12:45 PM
Classroom: [CHB/CBC C 129](#)
Office Phone: 702-895-4413

Course Description

This course provides an introduction to biostatistical concepts and reasoning and provides a survey of data and data types. Specific topics include tools for describing central tendency and variability in data; methods for performing inference on population means and proportions via sample data; statistical hypothesis testing and its application to group comparisons; issues of power and sample size in study designs; and random sample and other study types. While there are some formulae and computational elements to the course, the emphasis is on interpretation and concepts.

Course Prerequisites

MATH 124 or higher.

Course Objectives and Expected Learning Outcomes

1. Identify problems, articulate questions or hypotheses, and determine the need for information. (UULO 2.1)
2. Use quantitative and qualitative methods, including the ability to recognize assumptions, draw inferences, make deductions, and interpret information to analyze problems in context, and then draw conclusions. (UULO 2.3)

3. Recognize the complexity of problems, and identify different perspectives from which problems and questions can be viewed. (UULO 2.4)
4. Evaluate and report on conclusions, including discussing the basis for and strength of findings, and identify areas where further inquiry is needed. (UULO 2.5)
5. Identify, analyze, and evaluate reasoning, and construct and defend reasonable arguments and explanations. (UULO 2.6)
6. Produce effective visuals using different media (UULO 3.5)

Textbook and Requirements

Textbook and Other References

- (**Main**) Daniel, W. W. and Cross C. L. (2013). Biostatistics: A Foundation for Analysis in the Health Sciences, 10th edition. New York, NY: Wiley.
- Triola, M. M., and Triola, M. F. (2018). Biostatistics for the Biological and Health Sciences. 2nd Edition. Pearson.

Requirements

- Course notes are available on Canvas.
- Class activities and homework should be submitted through Canvas.
- We will use the BioStatCalc365 software. BioStatCalc365 is based on Microsoft Excel and can be operated through Microsoft Excel 2010 or newer.
 - UNLV provides free access to Microsoft 365 for Home Use. Click [here](#) for more details.
- BioStatCalc365 can be downloaded from Canvas.

Grading Criteria

Grade Breakdown

Requirement	Percentage
Midterm Exams	50%
Final Exam	25%
Homework	20%
Class Activities	5%
Total	100%

- There will be three exams: two midterm exams and one final exam. The midterm exams are weighted equally (25%).
- End-of-chapter homework problems will be assigned to the students through Canvas.
- Class activities consist of practice exercises done **in class unannounced**.

Assignment of Grades

Percentage Grade	Letter Grade
$94 \leq X \leq 100$	A
$90 \leq X < 94$	A-
$87 \leq X < 90$	B+
$84 \leq X < 87$	B
$80 \leq X < 84$	B-
$77 \leq X < 80$	C+
$74 \leq X < 77$	C
$70 \leq X < 74$	C-
$67 \leq X < 70$	D+
$64 \leq X < 67$	D
$61 \leq X < 64$	D-
< 61	F

University Policies and Accreditation

University Policies

Please refer to this link for university policies: <https://www.unlv.edu/policies/students>

Additional Information

Assignments completed for this course may be used as evidence of student learning in accreditation reports. Students who do not wish their work to be used for accreditation purposes must inform the course instructor in writing by the end of late registration. Your participation and cooperation are appreciated.

Tentative Schedule

Dr. Fudolig reserves the right to change the schedule and requirements for this course; appropriate notice of any changes will be made during scheduled classes.

Date	Day	Topic	Chapter
2025-01-22	Wednesday	Course Introduction and Computer Literacy	0
2025-01-27	Monday	Descriptive Statistics	2
2025-01-29	Wednesday	Descriptive Statistics	2
2025-02-03	Monday	Intro to Probability	3
2025-02-05	Wednesday	Intro to Probability	3
2025-02-10	Monday	Selected Probability Distributions	4
2025-02-12	Wednesday	Selected Probability Distributions	4
2025-02-17	Monday	Holiday	Holiday
2025-02-19	Wednesday	Selected Probability Distributions	4
2025-02-24	Monday	Sampling Distribution	5
2025-02-26	Wednesday	Sampling Distribution	5
2025-03-03	Monday	Review	-
2025-03-05	Wednesday	Midterm 1	2-5
2025-03-10	Monday	Estimation	6
2025-03-12	Wednesday	Spring Break	Spring Break
2025-03-17	Monday	Spring Break	Spring Break
2025-03-19	Wednesday	Estimation	6
2025-03-24	Monday	Estimation	6
2025-03-26	Wednesday	Hypothesis Testing	7
2025-03-31	Monday	Hypothesis Testing	7
2025-04-02	Wednesday	Hypothesis Testing	7
2025-04-07	Monday	Review	-
2025-04-09	Wednesday	Midterm 2	6-7
2025-04-14	Monday	ANOVA	8
2025-04-16	Wednesday	ANOVA	8
2025-04-21	Monday	Correlation	9
2025-04-23	Wednesday	Regression Analysis	9,11
2025-04-28	Monday	Analysis of Frequencies	12

2025-04-30	Wednesday	Analysis of Frequencies	12
2025-05-05	Monday	Analysis of Frequencies	12
2025-05-07	Wednesday	Review	-
2025-05-12	Monday	No class	No class
2025-05-14	Wednesday	Final Exam	8-12
