Pace University

CS 397: Topics in Computer Science – Probability and Statistics

Early Summer 1 2019

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Office Hours: By appointment

Pre-requisites MAT 131 minimum grade of C-

Credits 4

Course Description

This course covers the fundamentals of probability theory and statistical methods. Students will learn about the probability on finite sample spaces, combinatorial methods, discrete random variables, probability distributions, probability generating functions, descriptive and inferential statistics, confidence intervals, hypothesis testing, regression, and correlation.

Textbook

John E. Freund's Mathematical Statistics with Applications. – 8th ed., Miller & Miller, Pearson, 2014. ISBN 978-0-321-80709-0

Learning Outcomes

In this course students will learn about:

- Fundamental concepts of sample space, events, and outcomes
- Combinatorial methods, sets, and probability distributions
- Discrete and continuous random variables
- Sampling theory and point estimation
- Confidence intervals, and inferential statistics
- Hypothesis testing
- Correlation and linear regression

Meeting Time

Time: 10:00am - 3:00pm, M-F (May 20 – May 31, 2019)
Classroom: 163WM 237

Evaluation

Homework & Class Participation:	50%
Final exam:	50%

Given the intense schedule for this course **attendance is mandatory**

Grade Ranges

Percentage	Letter Grade	Percentage	Letter Grade
93% and higher	A	77% – 79%	C+
90% – 92%	A-	70% – 76%	C
87% – 89%	B+	67% – 69%	C-
83% – 86%	B	60% – 66%	D
80% – 82%	B-	Less than 60%	F

Academic integrity

Students in this course are required to adhere to Pace University's Academic Integrity Code. The Academic Integrity Code supports honesty and ethical conduct in the educational process. It educates students about what constitutes academic misconduct, helps to deter cheating and plagiarism, and provides a procedure for handling cases of academic misconduct. Students are expected to be familiar with the Code, which can be found under "University Policies" in the Student Handbook: http://www.pace.edu/academicintegritycode. Individual schools and programs may have additional standards of academic integrity. Students are responsible for familiarizing themselves with the policies of the schools, programs, and courses in which they are enrolled.

University Policies in the Student Handbook

http://www.pace.edu/student-handbook/university-policies-disciplinary-and-grievance-procedures

Accommodations for Students with Disabilities

The University's commitment to equal educational opportunities for students with disabilities includes providing reasonable accommodations for the needs of students with disabilities. To request an accommodation for a qualifying disability, a student must self-identify and register with the Coordinator of Disability Services for his or her campus. No one, including faculty, is authorized to evaluate the need and arrange for an accommodation except the Coordinator of Disability Services. Moreover, no one, including faculty, is authorized to contact the Coordinator of Disability Services on behalf of a student. For further information, please see Information for Students with Disabilities on the University's web site. To receive accommodation for any disability, students must contact the campus Counseling Center (Pace Plaza, 212-346-1526; Westchester, 914-773-3710).

Technological Assistance:

- For a list of all Pace Information Technology Services see http://www.pace.edu/its.
- For live assistance with a technological concern, contact the Pace Helpdesk at 914-773-3648 or create a work request at https://help.pace.edu/helpdesk/WebObjects/Helpdesk.
- The Calendar - You can always see the university academic calendar at http://webevents.pace.edu/?filter=academiccalendar.

Continuity Plan

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to change when necessitated by revised course delivery, semester calendar or other circumstances. Information will be communicated online. If the course is not able to meet face-to-face, students should immediately read any announcements and/or

alternative assignments. Students are also encouraged to continue the readings and assignments as outlined on this syllabus or subsequent syllabi.

Calendar

Day	Date	Topic	Reading
1	May 20	Probability concepts, Sample spaces, Random variables	Chapter 1-3
2	May 21	Expectations, Discrete distributions	Chapter 4, 5
3	May 22	Discrete and Continuous distributions	Chapter 5, 6
4	May 23	**No Class – Commencement**	
5	May 24	Sampling and Descriptive statistics	Chapter 8
6	May 27	**No Class – Memorial Day**	
7	May 28	Point & Interval Estimation	Chapter 10, 11
8	May 29	Hypothesis testing	Chapter 13
9	May 30	Linear regression	Chapter 14
14	May 31	**Review & FINAL EXAM**	