MATH 105 : Elementary Probability and Statistics
Spring 2026 Course Syllabus

NJIT Academic Integrity Code: Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: NJIT Academic Integrity Code.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

COURSE INFORMATION

Course Description: Consider notions of probability. Topics include the binomial and normal distributions, expected value, and variance. The notions of sampling, hypothesis testing, and confidence intervals are applied to elementary situations.

Number of Credits: 3

Prerequisites: None.

Course-Section and Instructors:

Course-Section	Instructor
Math 105-002	Professor C. Kim
Math 105-014	Professor C. Kim
Math 105-018	Professor C. Kim

Office Hours for All Math Instructors: Spring 2026 Office Hours and Emails

Required Textbook:

Title	*Understanding Basic Statistics*
Author	Brase and Brase
Edition	8th
Publisher	Cengage

ISBN #	ISBN-13: 9781337888981 (Paper w/WebAssign) ISBN-13: 9781337683685 (EBook)

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 6, 2026**. It will be strictly enforced.

COURSE GOALS

Course Objectives

- The objective of this course is to acquaint students with basic concepts and methods in statistics and probability and demonstrate real world applications using examples drawn from various fields. Topics to be covered include sampling, descriptive statistics, correlation and regression, notions of probability, binomial and normal distributions, estimation and hypothesis testing.

Course Outcomes *Upon successful completion of this course, the student will be able to -*

- Demonstrate their understanding of various statistical terms, types of data, and data collection methods Efficiently summarize, organize, and present data
- Effectively compute measures of central tendency, position, and variation and interpret the results Demonstrate their understanding of notions of probability and distributions
- Perform statistical analysis, such as estimation, hypothesis testing, correlation and regression and draw conclusions
- Apply statistical reasoning to real world problems and make informed decisions

Course Assessment: The assessment tools used will include class participation, homework assignments, quizzes, two midterm exams, and a cumulative/ comprehensive final exam.

POLICIES

DMS Course Policies: All DMS students must familiarize themselves with, and adhere to, the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. DMS takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Worksheet	15%
Midterm Exam I	25%
Midterm Exam II	25%
Final Exam	35%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	**C**	65 - 74
B+	85 - 89	**D**	55 - 64
B	80 - 84	**F**	0 - 54

C+	75 - 79		

Attendance Policy: Attendance at all classes will be recorded and is **mandatory**. Please make sure you read and fully understand the Math Department's Attendance Policy. This policy will be strictly enforced.

Religious Observance: NJIT is committed to supporting students observing religious holidays. Students must notify their instructors in writing of any conflicts between course requirements and religious observances, ideally by the end of the second week of classes and no later than two weeks before the anticipated absence.

Worksheet: Grade will be assigned based on group performance, participation and contribution.

Exams Policy: There will be two midterm exams, given during the class meeting time, in the semester and one comprehensive final exam. Exams will be tentatively held on the following days:

Midterm Exam I	Week 6
Midterm Exam II	Week 10
Final Exam Period	May 8 - May 14, 2026

The final exam will test your knowledge of all the course material taught in the entire course. Make sure you read and fully understand the Math Department's Examination Policy. This policy will be strictly enforced.

Makeup Exam Policy: There will be **NO MAKE-UP WORKSHEETS OR EXAMS** during the semester. In the event an exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

Cellular Phones: All cellular phones and other electronic devices must be switched off during all class times.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: Spring 2026 Hours)

Further Assistance: For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for Instructor Office Hours and Emails.

Accommodation of Disabilities: The Office of Accessibility Resources and Services (OARS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please If you need an accommodation due to a disability please contact the Office of Accessibility Resources and Services at oars@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Office of Accessibility Resources and Services office authorizing your accommodations will be required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Office of Accessibility Resources and Services (OARS) website at: https://www.njit.edu/accessibility/

Important Dates (See: Spring 2026 Academic Calendar, Registrar)

Date	Day	Event
January 20, 2026	Tuesday	First Day of Classes
January 26, 2026	Monday	Last Day to Add/Drop Classes
March 15, 2026	Sunday	Spring Recess Begins
March 21, 2026	Saturday	Spring Recess Ends
March 26, 2026	Thursday	AI Exploration Day
April 3, 2026	Friday	Good Friday - No Classes
April 6, 2026	Monday	Last Day to Withdraw
May 5, 2026	Tuesday	Friday Classes Meet
May 5, 2026	Tuesday	Last Day of Classes
May 6, 2026	Wednesday	Reading Day 1
May 7, 2026	Thursday	Reading Day 2
May 8 - May 14, 2026	Friday to Thursday	Final Exam Period

Course Outline

This outline is subject to change throughout the semester. A weekly Outline will be posted on Canvas homepage. All homework assignments are online using WebAssign.

Week #	Lecture #	Sections	Topics
1 (1/20)	1	1.1-1.3	Statistics and Sampling cont'd
	2	2.1-2.3	Organizing Data
2 (1/27)	3	2.1-2.3	Organizing Data cont'd
	4	3.1-3.3	Averages and Variation
3 (2/3)	5	3.1-3.3	Averages and Variation cont'd
	6	4.1-4.2	Correlation and Regression
4 (2/10)	7	4.1-4.2	Correlation and Regression cont'd
	8	5.1-5.3	Probability Theory

5 (2/17)	9	5.1-5.3	Probability Theory cont'd
	10	5.1-5.3	Probability Theory cont'd
6 (2/24)	11		Catch up and Review
	12		**MIDTERM #1**
7 (3/3)	13	6.1-6.2	Discrete Variables
	14	6.3	Binomial Distribution
8 (3/10)	15	7.1	Normal Curves
	16	7.2	Normal Curves cont'd
9 (3/24)	17	7.3	Normal Curves cont'd
	18	7.4-7.5	Sampling Distributions and the Central Limit Theorem
10 (3/31)	19		Catch up and Review
	20		**MIDTERM #2**
11 (4/7)	21	8.1-8.2	Estimating the Mean
	22	8.1-8.2	Estimating the Mean
12 (4/14)	23	8.3	Estimating Proportions
	24	9.1-9.2	Testing the Mean
13 (4/21)	25	9.1-9.2	Testing the Mean
	26	9.3	Testing a Proportion
14 (4/28)	27		Catch up & Review
	28		Catch up & Review
15 (5/5)	29		Catch up & Review
EXAM WEEK			**FINAL EXAM (CUMULATIVE)**