NJIT New Jersey's Science & Technology University

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 120-102: Basic Concepts in Statistics
Spring 2020 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Mathematical Sciences takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

COURSE INFORMATION

Course Description: The course offers an introduction to the basic concepts in statistics. Topics include the role of statistics, data summary, normal distribution, elements of probability, and computation of mean and variance. This course will also include an introduction to statistical estimation and inference.

Number of Credits: 1

Prerequisites: None.

Course-Section and Instructors

Course-Section	Instructor
Math 120-102	Professor D. Schmidt

Office Hours for All Math Instructors: Spring 2020 Office Hours and Emails

Required Textbook:

Title	*General Statistics*
Author	Chase and Bown
Edition	4th
Publisher	John Wiley & Sons, Inc.
ISBN #	978-0471283102

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 6, 2020**. It will be strictly enforced.

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:

Homework	15%
Quizzes	25%
Midterm	30%
Final	30%

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

A	90 - 100	**C**	60 - 69
B+	85 - 89	**D**	50 - 59
B	80 - 84	**F**	0 - 49
C+	70 - 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.

Homework Policy: Homework will be assigned in class.

Quiz Policy: A quiz will be given every class starting the second class except the week of the midterm.

Exams: There will be one midterm exam held in class during the semester and one comprehensive final exam. Exams are held on the following days:

Midterm Exam I	Meeting 8
Final Exam Period	May 8 - 14, 2020

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 QUIZZES 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 2020 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.

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

Accommodation of Disabilities: Disability Support Services (DSS) 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 contact Chantonette Lyles, Associate Director of Disability Support Services at 973-596-5417 or via email at lyles@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Disability Support 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 Disability Support Services (DSS) website at:

- https://www.njit.edu/studentsuccess/accessibility/

Important Dates (See: Spring 2020 Academic Calendar, Registrar)

Date	Day	Event
January 21, 2020	T	First Day of Classes
January 31, 2020	F	Last Day to Add/Drop Classes
March 15 - 22, 2020	Su-Su	Spring Recess: No Classes/ University Open
April 6, 2020	M	Last Day to Withdraw
April 10, 2020	F	Good Friday - University Closed
May 5, 2020	T	Friday Classes Meet - Last Day of Classes
May 6 & 7, 2020	W & R	Reading Days
May 8 - 14, 2020	F - R	Final Exam Period

Course Outline

Meeting	Section	Topic
		CHAPTER 2: ORGANIZING AND DESCRIBING DATA
1	2.1	Introduction
	2.2	Summarizing Data
	2.3	Graphic representations
	2.4	The Shape of a Distribution
2	2.5	Stem and leaf plots
	2.7	Measures of Central Tendency
3	2.8	Measures of Dispersion
4	2.9	Percentiles, Quartiles, and Interquartile Range
	2.1	Boxplots
		CHAPTER 3: DESCRIPTIVE METHODS FOR REGRESSION AND CORRELATION
5	3.1	Introduction
	3.2	The least Squares Regression Line
	3.3	The Linear Correlation Coefficient

		CHAPTER 5: PROBABILITY DISTRIBUTIONS FOR DISCRETE RANDOM VARIABLES
6	5.1	Introduction To Probability
	5.2	Random Variables
7	5.3	Discrete Probability Distributions
	5.4	Mean and Variance
		Review For Midterm Exam
8		**MIDTERM EXAM**
9		**CHAPTER 6: PROBABILITY DISTRIBUTIONS FOR CONTINUOUS RANDOM VARIABLES; THE NORMAL DISTRIBUTION**
	6.1	Introduction
	6.2	Continuous Probability Distributions
10	6.3	The Normal Distribution
	6.4	The Standard Normal Distribution
11	6.5	More on Normal Probability
	6.7	The Central Limit Theorem
		CHAPTER 7: STATISTICAL INFERENCE CONCERNING MEANS AND PROPORTIONS
12	7.1	Introduction
	7.2	Estimating a Population Mean (Large-Sample Case)
13	7.3	Hypothesis Testing Concerning a Population Mean (Large-Sample Case)
14	7.4	P-values
		Review for Final Exam
***		**FINAL EXAM**