

# **COURSE LEARNING OUTCOMES**

DEPARTMENT: Mathematics

**COURSE #: 17300**

**COURSE TITLE: Intro to Probability and Statistics**

CATEGORY: Prerequisite to course required of all majors

TERM OFFERED: Summer 2020

PRE-REQUISITES: Placement by the department

PRE/CO-REQUISITES:

HOURS/CREDITS: 4 hrs./ week; 4 credits.

DATE EFFECTIVE: 6/1/2020

COURSE COORDINATOR: Shirshendu Chatterjee

## **CATALOG DESCRIPTION**

Descriptive statistics and frequency histograms; measures of location and dispersion; elementary probability; permutations and combinations; multiplication rule and conditional probability; Bayes' Theorem; independent events; random variables, expected values; applications to binomial, hypergeometric, uniform and normal distributions; the Central Limit Theorem; testing statistical hypotheses; correlation; linear regression and least squares.

**Required Text:** Introduction to Probability and Statistics, Mendenhall, Beaver, Beaver. Fourteenth Edition, 2013. Brooks Cole.

## **COURSE ASSESSMENT TOOLS**

*Please describe below all assessment tools that are used in the course.*

*You may also indicate the percentage that each assessment contributes to the final grade.*

1. Final exam: 40%
2. Midterms x 2: 40%
3. Projects: 20%

## **DEPARTMENTAL LEARNING OUTCOMES** *(to be filled out by departmental mentor)*

***The mathematics department, in its varied courses, aims to teach students to***

- a. perform numeric and symbolic computations*
- b. construct and apply symbolic and graphical representations of functions*
- c. model real-life problems mathematically*
- d. use technology appropriately to analyze mathematical problems*
- e. state (e1) and apply (e2) mathematical definitions and theorems*
- f. prove fundamental theorems*
- g. construct and present (generally in writing, but, occasionally, orally) a rigorous mathematical argument.*