Computer Science

CS 361  **Probability & Statistics for Computer Science**  credit: 3 hours.
Introduction to probability theory and statistics with applications to computer science. Topics include: visualizing datasets, summarizing
data, basic descriptive statistics, conditional probability, independence, Bayes theorem, random variables, joint and conditional
distributions, expectation, variance and covariance, central limit theorem. Markov inequality, Chebyshev inequality, law of large
numbers, Markov chains, simulation, the PageRank algorithm, populations and sampling, sample mean, standard error, maximum
likelihood estimation, Bayes estimation, hypothesis testing, confidence intervals, linear regression, principal component analysis,
classification, and decision trees. Same as STAT 361. Credit is not given for both CS 361 and ECE 313. Prerequisite: MATH 220 or
MATH 221; credit or concurrent registration in one of MATH 225, MATH 415 or MATH 416. For majors only.

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For up-to-date information about CS course restrictions, please see the following link: [http://go.cs.illinois.edu/CSregister](http://go.cs.illinois.edu/CSregister)