**Colorado Technical University**

**Course:** MATH366 – Probability and Statistics

#### Unit 06 Part 12 Readings: Discrete Probability Distributions

**Discrete Probability Distributions**

**frequency distribution** => probability distribution

**random variable** - takes on a single value determined by chance

**discrete random variable** - has only certain possible values

**discrete probability distribution**:

for the population 0 ≤ P(outcome) ≤ 1

Σ P(all outcomes) = 1 (1 means 100%, 0.5 means 50% ...)

the probability of an event occurring is: freq of *x*/total freq

**Expected value** - The expected value of a discrete random variable is equal to the

mean of the random variable

**Variance** - We use the average squared deviation: E((X - μx)2)