

# PENNSSTATE

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**IE 419**  
**Work Design:**  
**Productivity and Safety**

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Class #17

# Ch. 14 – Work Sampling

- **Work Measurement** – to establish a standard time for a given job:
  - Time study (IE 327)
  - Predetermined time systems (IE 419)
    - MTM-2
    - MOST
  - Standard data (IE 327)
- **Work Sampling** – method of find % occurrence of an activity by statistical sampling and random observations

# Work Sampling

- Can not continually observe an event
- At a given instant, the event either happens or does not
- Probability of such binary event happening  $m$  out of  $n$  times, is determined by the **binomial distribution**:

$$P(m) = \frac{n!}{m! (n-m)!} p^m (1-p)^{n-m}$$

$n = \#$  obs,  $m = \#$  events,  $p =$  prob of event,  $q=1-p$