

General Full Factorial Designs With k Factors

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These slides are available on-line at:

<http://www.cse.wustl.edu/~jain/cse567-06/>



- ❑ Model
- ❑ Analysis of a General Design
- ❑ Informal Methods
 - Observation Method
 - Ranking Method
 - Range Method

General Full Factorial Designs With k Factors

□ Model: k factors $\Rightarrow 2^k - 1$ effects

k main effects

$\binom{k}{2}$ two factor interactions,

$\binom{k}{3}$ three factor interactions,

and so on.

Example: 3 factors A, B, C:

$$y_{ijkl} = \mu + \alpha_i + \beta_j + \xi_k + \gamma_{ABij} + \gamma_{ACik} + \gamma_{BCjk} + \gamma_{ABCijk} + e_{ijkl}$$

$$i = 1, \dots, a; \quad j = 1, \dots, b; \quad k = 1, \dots, c; \quad l = 1, \dots, r;$$