Chapter 6

Criteria

Applied Industrial Ergonomics (IE665)
Dr. A. K. Sengupta
Foundation 1

- *People vary.*
- Designers have more data to quantify variation.
Foundation 2

- *People are more educated.*
- Median years of schooling at age 25 is now 12.
Foundation 3

- *People want a say.*
- Democracy has increased at the industrial level.
Foundation 4

- The world is becoming smaller.
- Communication and transportation make international manufacturing possible.
Foundation 5

- *Machines are becoming more capable.*
- While labor costs have continued to increase.
Foundation 6

- *Safety and health are more important.*
- Ergonomics reflects increased concern for the worker.
Foundation 7

- **Job specialization is changing.**
- In our society, machines have replaced most physical labor.
Foundation 8

- Jobs are more interrelated.
- Conceptual work systems focus on the individual.
Criterion 1

- Safety is first.
- Design for safety, performance, worker comfort, and higher wants, in that order.
Criterion 2

- *Make the machine user-friendly.*
- The machine should adjust to the worker, not the worker to the machine.
Criterion 3

- *Reduce the percent excluded by the machine.*
- Gender, age, strength, or other physical attributes should not prevent people from participating.
Criterion 4

- Design jobs to be cognitive and social.
- Physical and procedural work can be done by machines.
Criterion 5

- *Emphasize communication.*
- Improve communication with machines (controls and displays) as well as among people.
Criterion 6

- *Use machines to extend human performance.*
- The question is how many machines the human will supervise, and how to design the system to use the output of the machines.