



Ergonomics: **Principles and** **Application**

WG. CDR. AMAN

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Overview

- **Definition**
- **Scope of Ergonomics**
- **Ergonomic Design**
- **Anthropometry**
- **Interface Design**
- **Fitts and Jones Studies**
- **Conclusion** 2
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Definition

**Ergonomics is the
Scientific Study of the
Inter-relationships
Between People and
Their Work**

Scope

- **The Human System**
- **Environmental Factors**
- **The Man-Machine Interface**
- **Total Working System**

Scope (1)

Human characteristics

Body Dimension

Strength

Physical and mental limitations

Stamina

Learning

Perception

Reaction

Scope (2)

Environmental Factors

Temperature

Humidity

Light

Ventilation

Noise

Vibration

Scope (3)

Man-machine interface

Displays

Controls

Communications

Automation

Scope (4)

Total working system

Fatigue

Work rate

Posture

Stress

Productivity

Accidents

Safety

Ergonomic Design

Layout

Vision

Posture

Work Rate

Comfort

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Anthropometry

The Study of Body Dimensions to Help Design Workplace Layouts and Equipment

Interface Design Principles



- tion
- Comfort
- Order of Use
- Priority
- Functions
- Fatigue

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Fitts and Jones Studies of '227 Errors'

Errors of Interpretation	48
Errors of Reversal	47
Errors of Legibility	37
Errors of Substitution	12 95

Conclusion

**Application of
Ergonomics to the Design of
Tools, Machines, Systems, Tasks,
Jobs and Environments for Safe,
Comfortable and Effective
Human Use**

QUESTIONS

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