

# Introduction of Ergonomics

**MODULE 1: INTRODUCTION TO ERGONOMICS**

**MODULE 2: ERGONOMICS RISK FACTORS,**

**MODULE 3: MUSCULOSKELETAL INJURIES AND  
ERGONOMICS RELATED INJURIES**

**MODULE 4: ERGONOMIC SELF-MANAGEMENT.**



# LEARNING OUTCOME

- ✓ Learn the principles of ergonomic and their applications;
- ✓ Understand good working practices;
- ✓ Identify work tasks that may lead to pain or injury;
- ✓ Learn practical ergonomics solutions for work and life
- ✓ Understand musculoskeletal injuries that are a result of improper Ergonomics

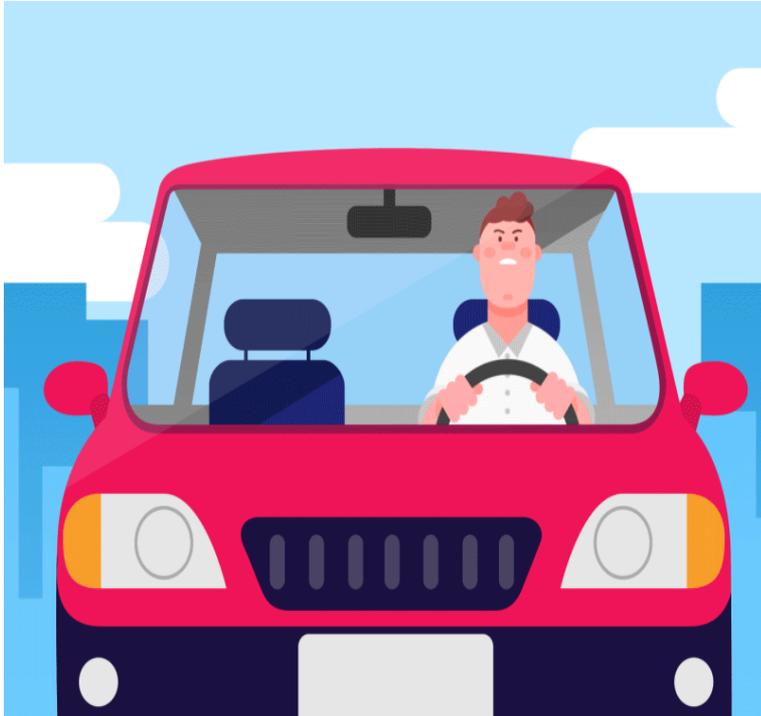
# MODULE 1: INTRODUCTION TO ERGONOMICS

- Lesson 1: Definition and History
- Lesson 2: Ergonomic Framework,
- Lesson 3: Importance of Ergonomic
- Lesson 4: Domain of Ergonomic.

# LESSON 1: DEFINATION AND HISTORY

**Ergonomics starts even when we are sleeping, how many hours in a day do we spend in bed?**





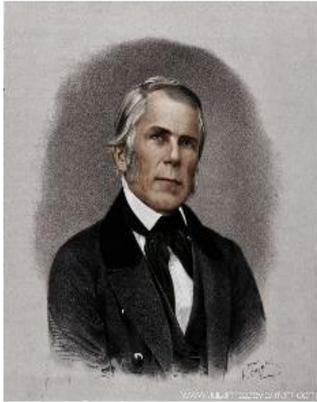
**Another example is  
while we are driving a  
car**

**The study of the problems of people in adjusting to their environment; especially the science that seeks to adapt work or working conditions to suit the individual worker**

**Webster's New World Dictionary  
(College Edition)**

**The word "ergonomics" is from Greek:**

- "ergon" means "work,"
- "nomos" means "laws"
- Ergonomics is defined as "the laws pertaining to work"



**Wojciech  
Jastrzębowski**



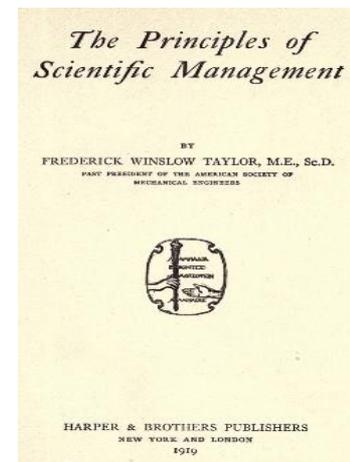
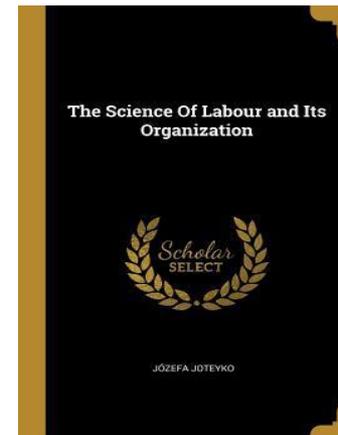
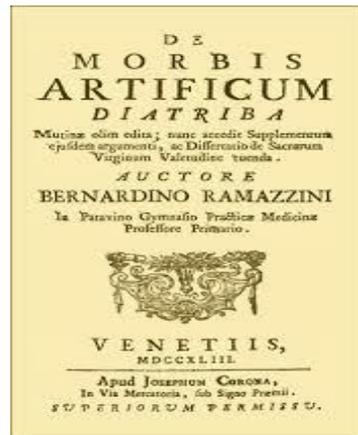
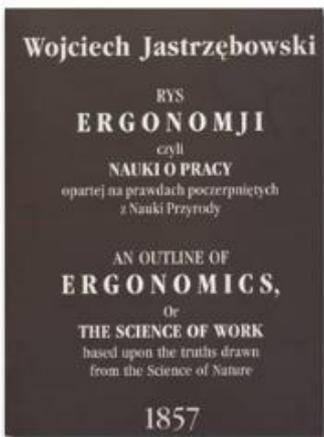
**Bernardino  
Ramazzini**



**Józefa Joteyko**



**Frederick  
Winslow Taylor**



# LESSON 2: ERGONOMICS

## FRAMEWORK

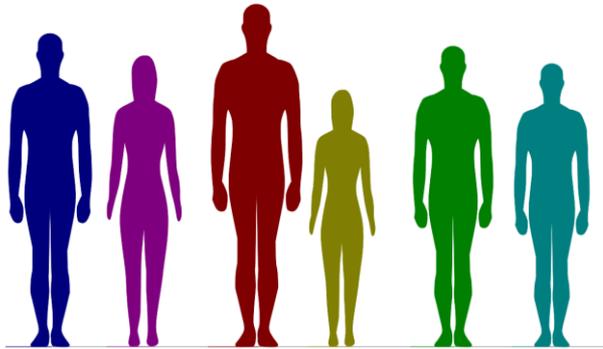


**Figure 1.1:** Ergonomics framework.

**Source:** Grey et al. (1987)

# TASK

- ❑ To ensure the task design is accommodating to the capabilities and capacities of each workers.



- ❑ To ensure that the tools that is being used by the workers are suitable for the task at hand



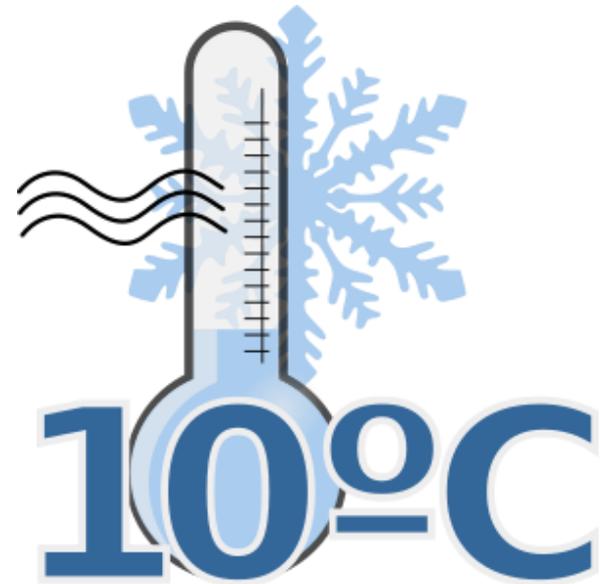
# WORKSTATION

- ❑ The workstation is the place or area where people perform their tasks.



# ENVIRONMENT

## TEMPERATURE



# WORK ORGANIZATION

The management needs to carefully assess the physical and mental capabilities of workers. Important factors that need to be considered are:

**TASK CHARACTERISTICS**

**TASK DEMANDS**

**INSTRUCTIONS AND  
PROCEDURES**

**POTENTIAL STRESSORS**

# LESSON 3: IMPORTANCE OF ERGONOMICS

## **OBJECTIVES OF ERGONOMICS**

To increase the level of safety and health of workers, reduce stress and fatigue, enable greater efficiency and productivity, reduce ill-health and error, and prevent accidents.

To improve the performance of systems comprising of people and equipment

To optimize the integration of man and machine so as to improve the work rate and accuracy.

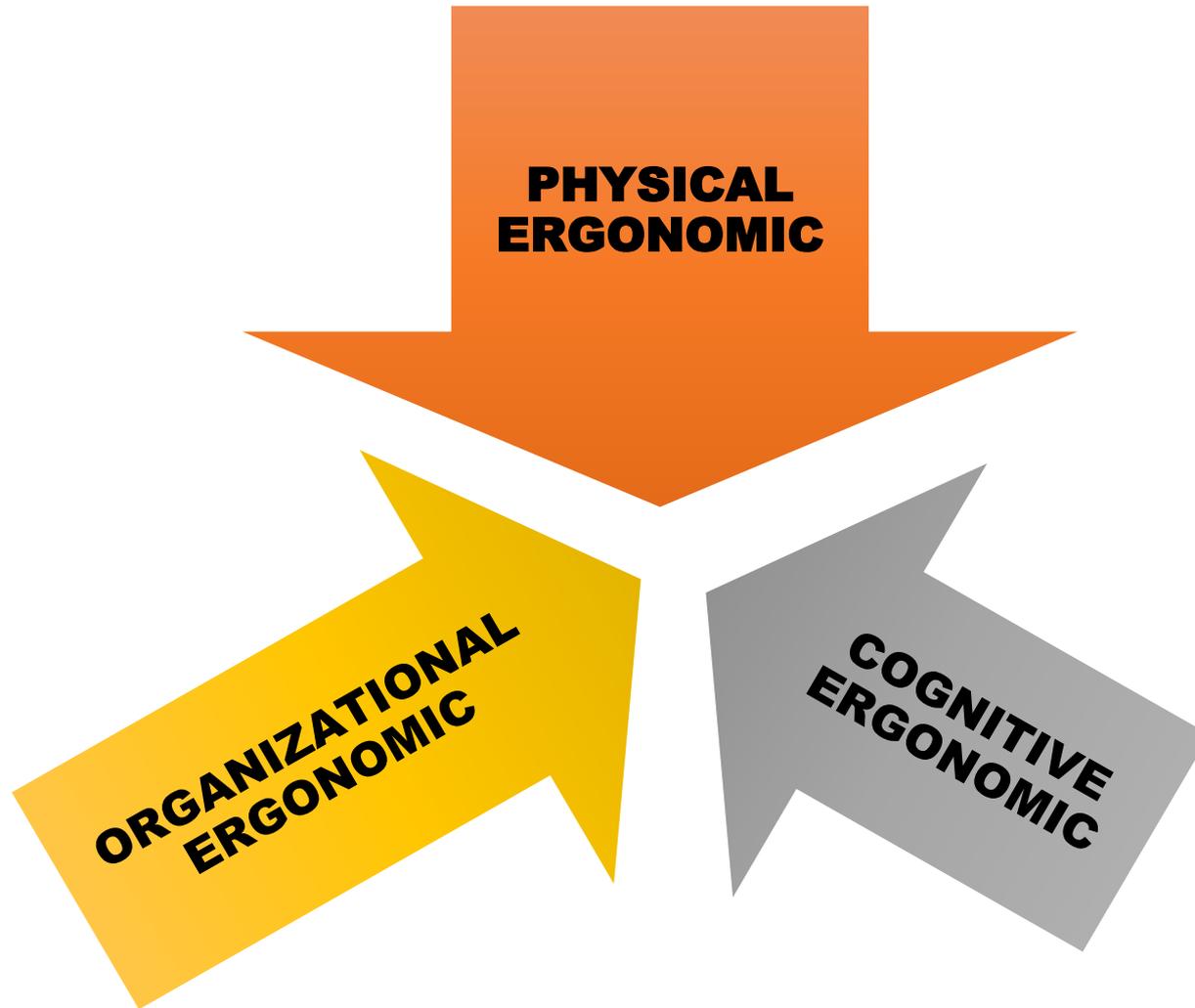
Ergonomics is concerned with ensuring a good match between people and the things they interact with. This may include the objects they use or the environment they live in. Every product, system, or environment should be designed with ergonomics in mind.



Ignoring ergonomics will result in designs that are doomed to fail in the marketplace as they don't fit the needs of the user.



# LESSON 4: DOMAIN OF ERGONOMICS



# PHYSICAL ERGONOMIC



Concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity.

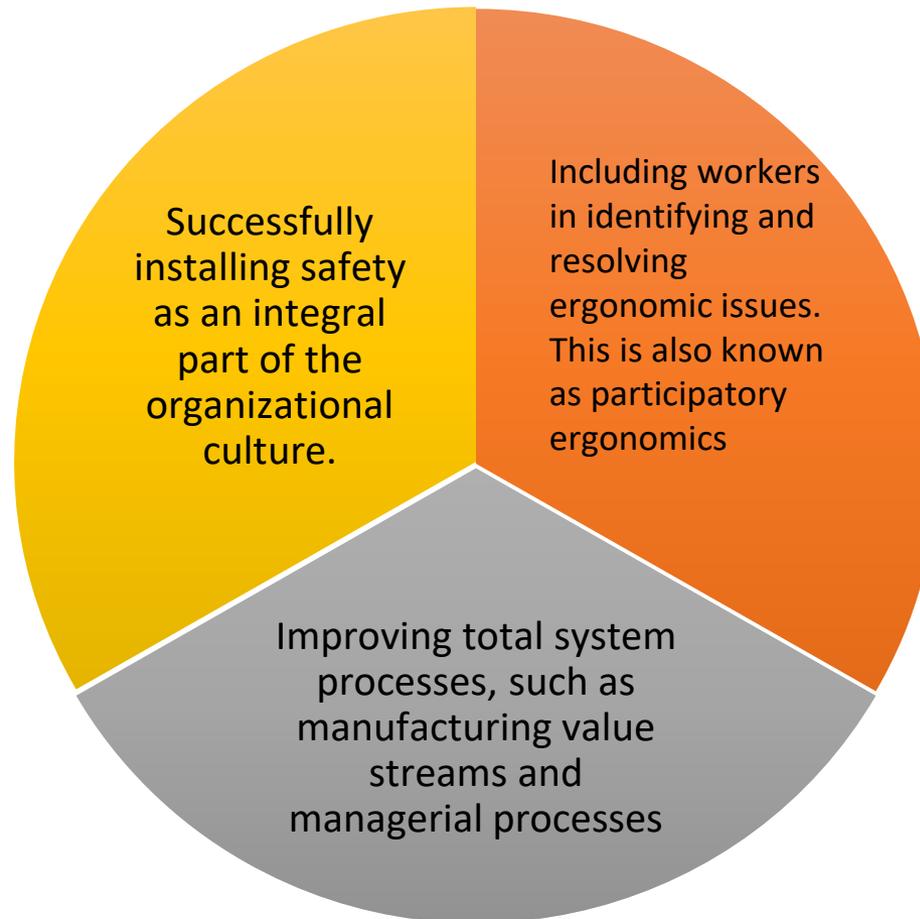


# ORGANIZATIONAL ERGONOMIC

Concerned with the optimization of sociotechnical systems, including their organizational structures, policies and processes



# TYPICAL INTERVENTION



**SEVERAL FACTORS TO BE CONSIDERED WHEN IMPLEMENT  
NEW TECHNOLOGIES**

**FUNCTIONS**

**CAPACITIES**

**USER  
FRIENDLINESS**

**CAPABILITIES**

**INTEGRATION**

A photograph of several people in business attire holding their hands together in a circle, symbolizing teamwork and collaboration. The background is a light blue wall with a grid pattern.

# Thanks!

Do you have any questions?

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