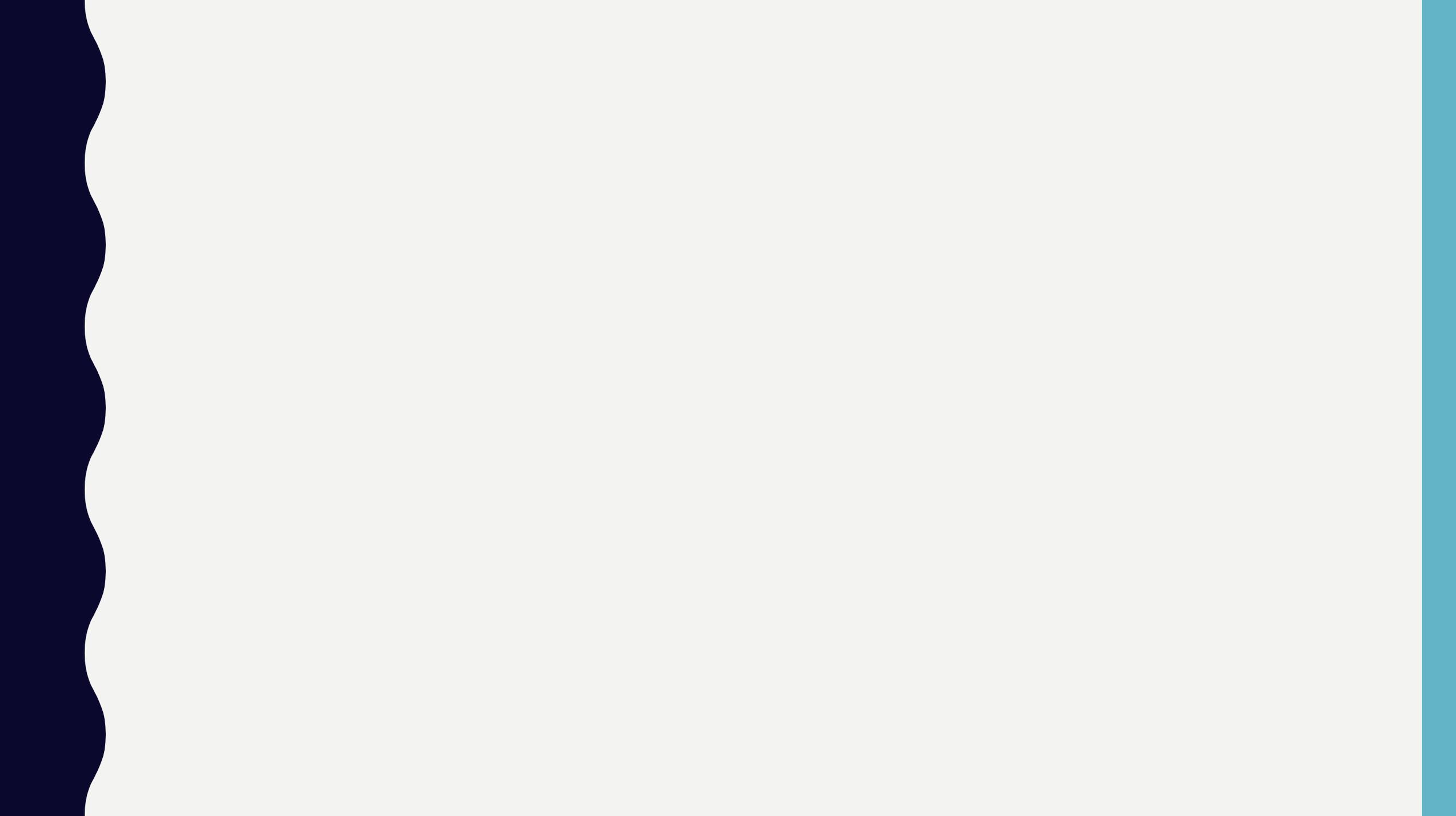


PHYSICAL WORK ENVIRONMENT

**DR. ANKUR GUPTA
IIT BHUBANESWAR**

LECTURE OUTLINE

- Lighting system
- Auditory environment
- Effect of noise

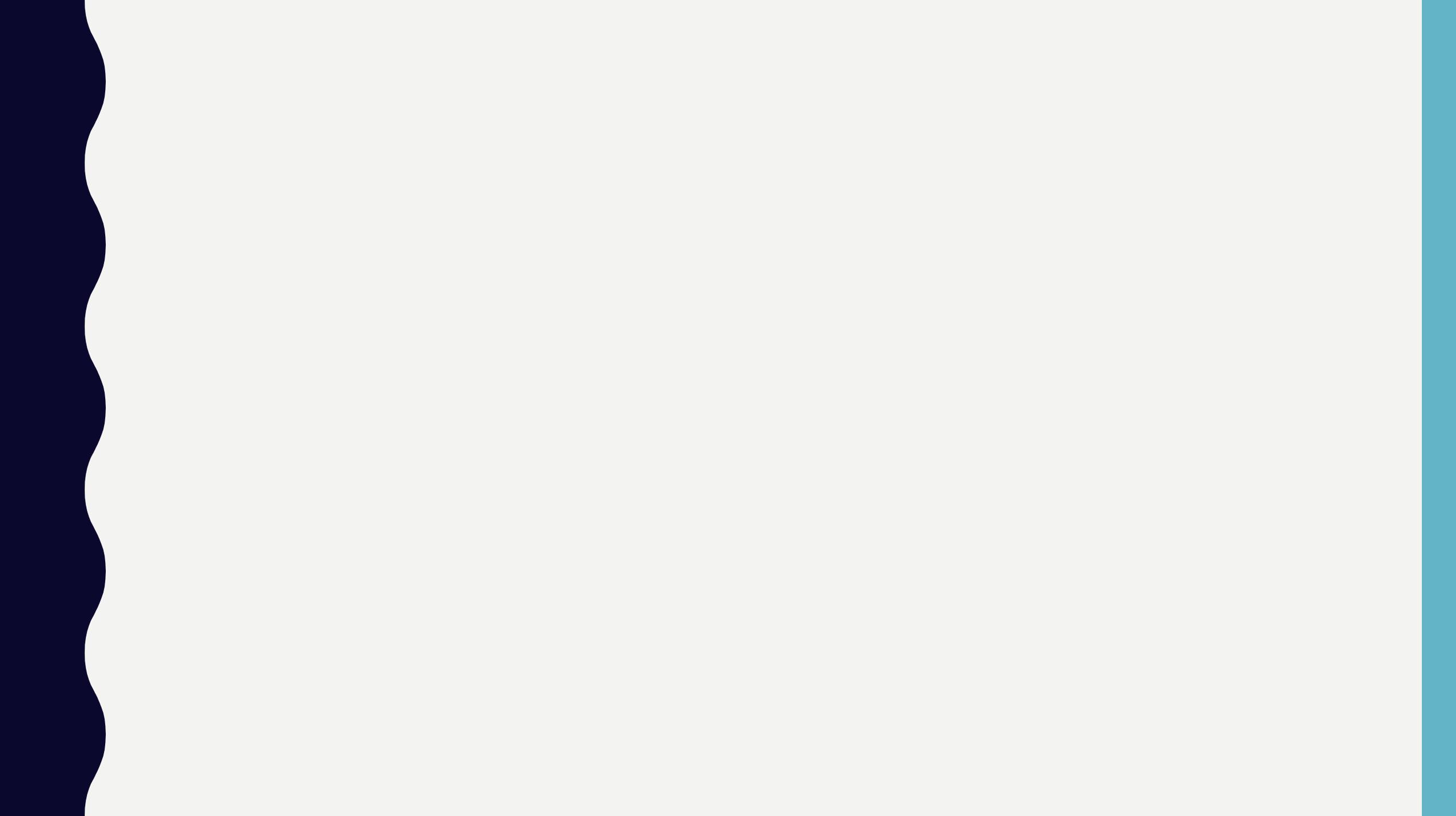




LIGHTING SYSTEM

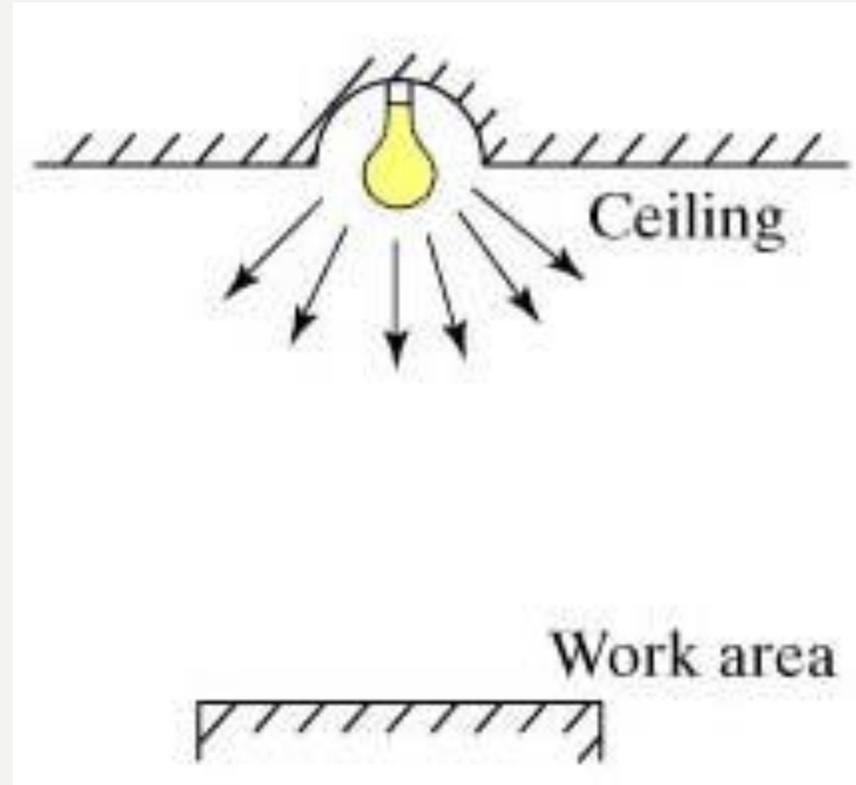
LIGHTING SYSTEMS

- Lamp - a single artificial source of light (e.g., an incandescent lamp)
- Luminaire - complete lighting unit, including
 - One or more lamps
 - Reflectors and other apparatus to distribute the light
 - Means to connect to power supply



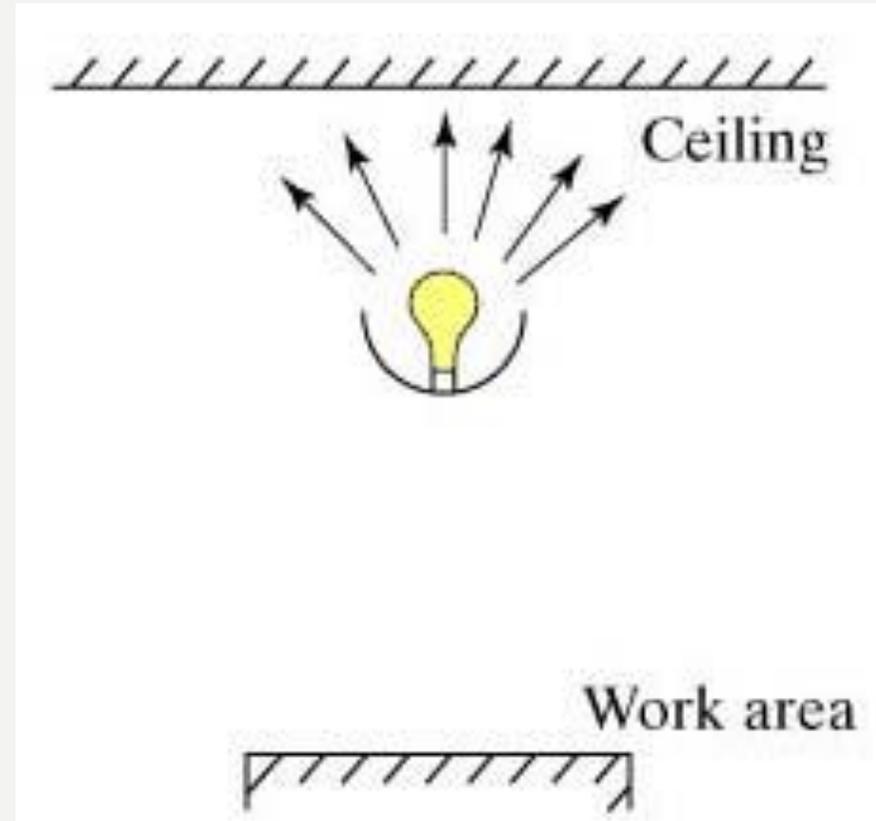
TYPES OF LUMINAIRES

Direct lighting



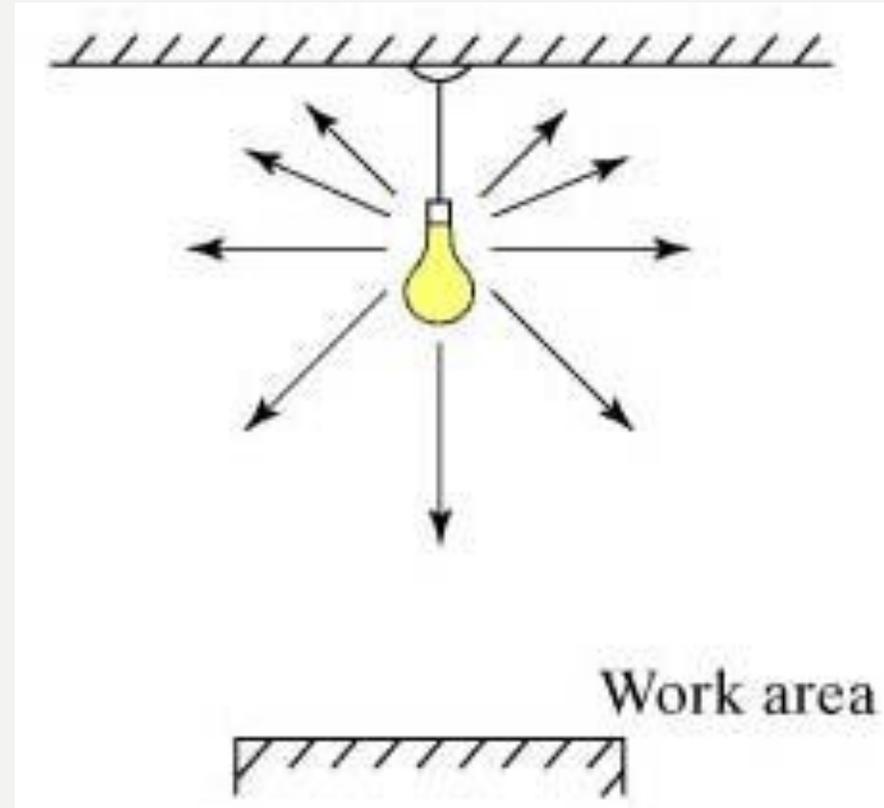
TYPES OF LUMINAIRES

Indirect lighting



TYPES OF LUMINAIRES

Combination of direct and indirect lighting



TWO BASIC TYPES OF LAMPS

- Incandescent lamps - electrically heating a filament that produces radiant energy, some of which is in the visible spectrum
 - Common filament material - tungsten
- Discharge lamps - produce light by means of an electric discharge in a gas
 - Common discharge lamp - fluorescent lamp, which contains mercury vapor that emits light when bombarded by electrons



**AUDITORY
ENVIRONMENT**

AUDITORY ENVIRONMENT AND NOISE

- The second most important means by which humans receive information
- Visual and auditory stimuli account for 95% or more of a person's information input
- The auditory environment also includes:
 - Noise - defined as unwanted sound



EFFECT OF NOISE

EFFECTS OF NOISE ON HUMANS

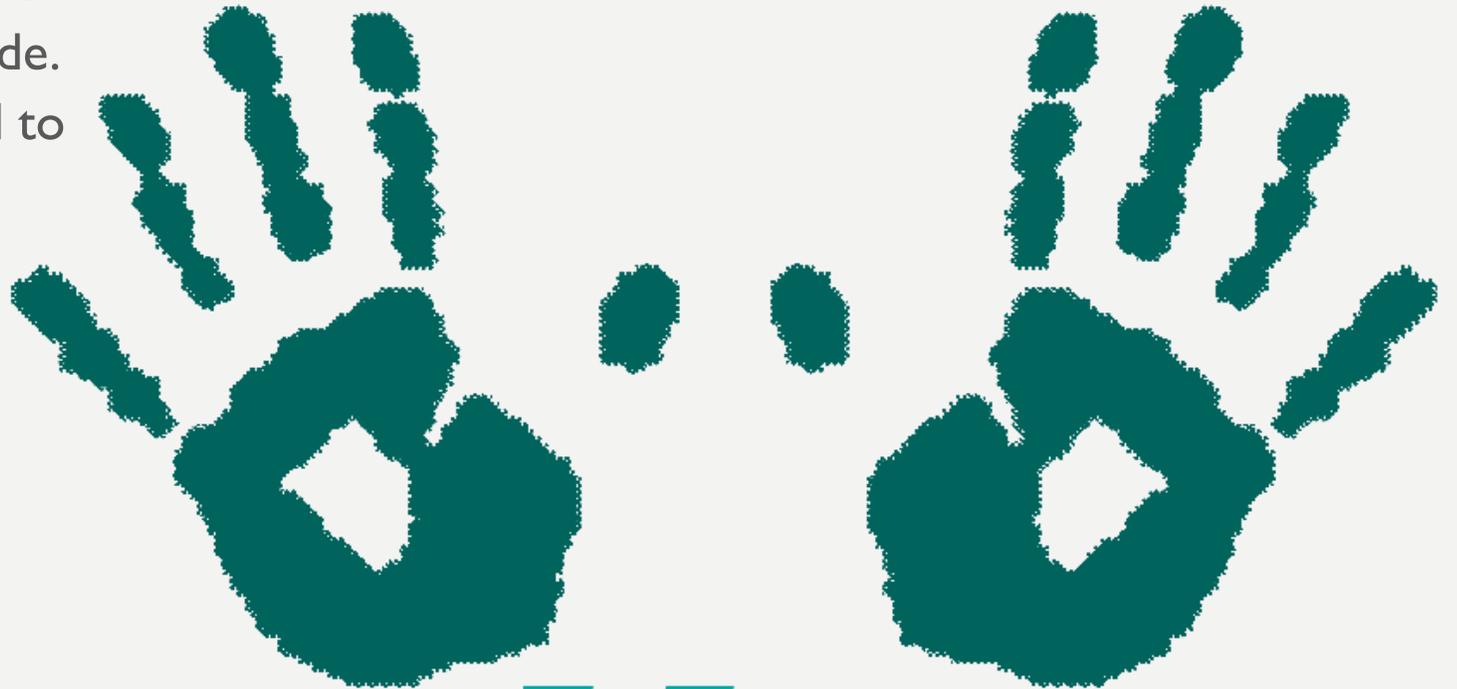
- Distraction
- Negative emotions such as annoyance, frustration, anger, and fear
- Interference with conversation, thinking, and other cognitive processes
- Interference with sleeping
- Temporary hearing loss
- Permanent hearing loss



**LECTURE
CLOSING**

DID YOU KNOW.....????

- If you are right handed, you will tend to chew your food on your right side. If you are left handed, you will tend to chew your food on your left side.



LEFT **V** RIGHT

IF YOU WERE.....?????

- If you were an engineer working for noise control, which types of solutions you would implement to reduce the adverse effect of noise on the workers working in a industry.....???



GRAFFITI





THANK YOU ...



PLEASE READ NOISE AND AUDITORY
ENVIRONMENT FROM RECOMMENDED
REFERENCE BOOKS FOR A BETTER
UNDERSTANDING OF NEXT LECTURE