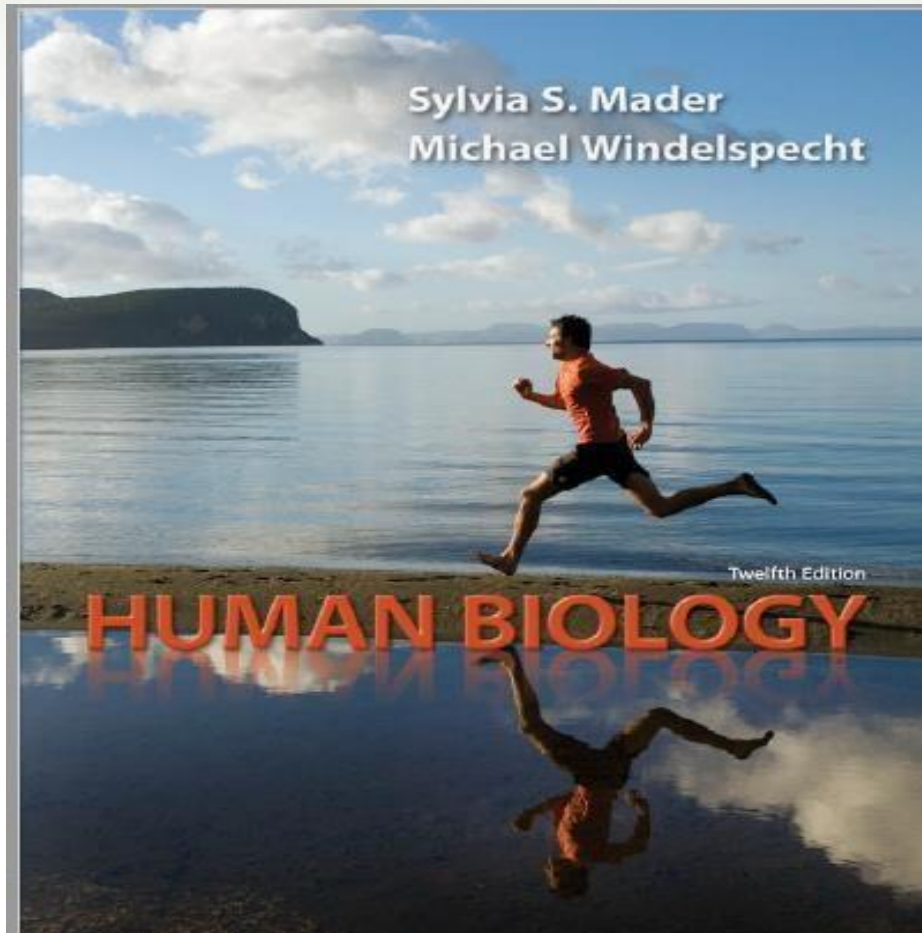




**Biology**  
**Lecture I – Introduction**

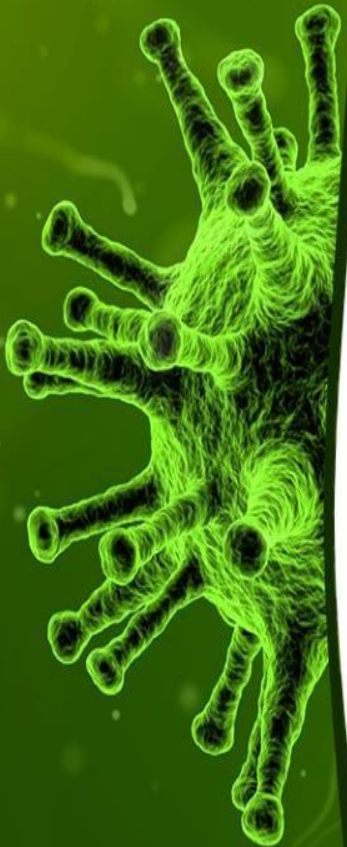
**Assist Prof. Dr.Rehab A. H. Al-Baker**  
**(2024-2025)**

# Reference



# Definition

- ❑ The science of biology is the study of living organisms and their environments. All living things share several basic characteristics. Living things (1) are organized, (2) acquire materials and energy, (3) reproduce, (4) grow and develop, (5) are homeostatic, (6) respond to stimuli.
- ❑ It covers all aspect of the study of living creatures like occurrence, classification, ecology, economic importance, organization, internal structure, nutrition, health and other body functions, reproduction, life history, inheritance and origin. The term biology is often replaced by the term life sciences or biological sciences.





# Main branches of Biology

## **Anatomy**

It is the study of internal structure which can be observed with unaided eye after dissection

## **Histology**

It is the study of tissue organization and structure as observed through light microscope.



# Main branches of Biology

## **Cytology**

- It is the study of form and structure of cells including the behavior of nucleus and other organelles.

## **Molecular Biology**

- It is the study of the nature, physicochemical organization, synthesis working and interaction of bio-molecules that bring about and control various activities of the protoplasm.



# Main branches of Biology

## Physiology

- It is the study of different types of body functions and processes.

## Embryology

It is the study of fertilization, growth, division and differentiation of the **zygote** into embryo or early development of living beings before the attainment of structure and size of the offspring.

A microscopic image showing several viruses with spherical bodies and long, thin, hair-like projections (spikes) extending from their surfaces. The viruses are set against a dark, textured background.

# Main branches of Biology

## Genetics

- It is the study of inheritance of characters or heredity and variations. Heredity is the study of expression and transmission of traits from parents to offspring.

## Virology

It is the study of viruses in all their aspects.