Basic Science

Basic sciences of medicine is what every physician is educated in, and some return to in biomedical research. This type of research encompasses familiar scientific disciplines such as biochemistry, microbiology, physiology, and pharmacology, and their interplay, and involves laboratory studies with cell cultures, animal studies or physiological experiments. Basic science field also include behavioral and social sciences, which have no less profound relevance for medicine and health.

- Cell Biology, Genetics, and Biochemistry for Pre-Clinical Students

Cell Biology, Genetics, and Biochemistry for Pre-Clinical Students is an undergraduate medical-level resource for foundational knowledge across the disciplines of genetics, cell biology and biochemistry. This USMLE-aligned text is designed for a first-year undergraduate medical course that is delivered typically before students start to explore systems physiology and pathophysiology.

- Front Matter
  - 1: Biochemistry Basics
  - 2: Basic Laboratory Measurements
3: Fed and Fasted State

4: Fuel for Now

5: Fuel for Later

6: Lipoprotein Metabolism and Cholesterol Synthesis

7: Pentose Phosphate Pathway (PPP), Purine and Pyrimidine Metabolism

8: Amino Acid Metabolism and Heritable Disorders of Degradation

9: Disorders of Monosaccharide Metabolism and Other Metabolic Conditions

10: Genes, Genomes, and DNA

11: Transcription and Translation

12: Gene Regulation and the Cell Cycle

13: Human Genetics

14: Linkage Studies, Pedigrees, and Population Genetics

15: Cellular Signaling

16: Plasma Membrane

17: Cytoplasmic Membranes

18: Cytoskeleton

19: Extracellular Matrix

Back Matter

Thumbnail: DNA double helix. (Public Domain; NIH - Genome Research Institute).