

Syllabus BIOLOGY for General Medicine-Topics

1. Introduction to Human Biology and the Scientific Method

- Structural organization of the human body
- Functions of human life
- Classification of organisms

2. Biochemistry and life

- The building blocks of molecules
- The chemical and physical properties of water
- Biological macromolecules

3. Cells

- Prokaryotic and eukaryotic cells
- Cell membrane
- Transport mechanisms

4. DNA and Gene Expression

- DNA and RNA
- The Basics of DNA replication
- Transcription and translation

5. Digestive System

- Organs and glands
- Homeostasis
- Energy and metabolism
- Fermentation

6. Blood cells and Cardiovascular System

- Heart and blood vessels
- Cardiac muscle and electrical activity

7. Respiratory System

- Organs and structures of the respiratory system
- Gas pressure, volume, and breathing
- Gas exchange and transport of gases

8. Endocrine System

- Gland and hormones

9. Urinary System

- Anatomy and function
- Hormonal control of urine concentration

10. Mitosis and Meiosis

- Cell division
- Chromosomes and the genome
- The Cell Cycle
- Meiosis and Genetic Variation

11. Reproductive Systems

- Male Reproductive anatomy and physiology
- Female Reproductive anatomy and physiology

12. Skeletal System

- Bone Structure and bone tissue
- Functions of the Skeletal System

13. Muscles and Movement

- Muscle Contraction and locomotion

14. Nervous System

- Neurons and Glial Cells
- The Central and Peripheral Nervous Systems

15. Special Senses

- Taste and smell
- Hearing and Vestibular Sensation
- Vision

16. Immune System

- Innate and Adaptive Immunity

LITERATURE

1. Willy Cushwa, "Human Biology" PDF generated: June 27, 2018
Online: < <http://cnx.org/content/col11903/1.3/>
Available for free at Connexions <http://cnx.org/content/col11903/1.3>
(*this textbook is the most important one*)
2. Douglas Wilkin and Jean Brainard. "Human biology" November 7, 2015
Referral attribution link <http://www.ck12.org/saythanks>
To access a customizable version of this book, as well as other interactive content, visit www.ck12.org
3. Christine Miller "Human biology" THOMPSON RIVERS UNIVERSITY KAMLOOPS, 2020
This book is an adaptation of the CK-12 Foundation textbook "College Human Biology" (which can be found at <https://www.ck12.org/book/ck-12-human-biology>
and was authored by Jean Brainard, Ph.D., Rachel Henderson, Ph.D in 2016. College Human Biology by CK-12 Foundation is licensed as CC BY NC.