

INTRODUCTION:

In this course, students will explore biological science as a process, cell structure and function, cell types, organelles and macromolecules, enzymes, and an introduction to metabolism; comparison between catabolism and anabolism and studying cellular respiration as an example on catabolism. Students will also take the opportunity to understand the main concepts of animal structure and function through studying the human body systems such as digestive, respiratory, circulatory, and reproductive systems.

RECOMMENDED REFERENCES:

<i>Reece J.B. (2013). Campbell Biology (10th edition). Benjamin Cumming</i>
<i>Tortora G.J. and Derrickson B.H. (2014). Biology PYP. Wiley and Sons, Inc.</i>
<i>Study guide for Campbell biology 10th ed. (CD)</i>

COURSE CONTENT:

<i>Topic</i>	<i>Week</i>
Biology: Exploring life	1
A tour of the cell; cell theory, cell types, structure and function of organelles	2+3
The molecules of cells; carbohydrates, lipids, proteins, and nucleic acids	4+5
The working cell; membrane structure and function, tonicity, and transport mechanisms	6
How cells harvest energy; catabolism, anabolism, and enzymes	7+8+9
Molecular biology of the gene; genetic material, DNA replication, and flow of genetic information	10
Animal structure and function; tissues and organs	11
Nutrition and digestion; the human digestive system	12
Gas exchange and circulation; the human respiratory system and the cardiovascular system	13
Reproduction and embryonic development; human reproduction	14

Grading:

<i>First Exam</i>	20 %
<i>Second Exam</i>	20 %
<i>Lab</i>	10 %
<i>Participation</i>	10 %
<i>Final Exam</i>	40 %

Exam Date:

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