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AP Biology Summer Class

For 2022 Summer

This program is designed by **SAT by MBA Learning Center** to offer students the ultimate solution to advance their AP Biology scores efficiently and effectively. This is a 4-week program, and you will need to commit to the whole program starting 7/18/22 to 8/12/22 at 10 – 12 pm (weekdays only). If the following class times don't fit your schedule, you may contact us to arrange another group class (if you can find 4+ students) or sign on our 1-on-1 private lessons which is a lot more flexible and can better fit your busy schedules. For further information, please e-mail satbymba@gmail.com or call/text the business cell phone at (973) 960-9093.

Instructor: High School AP Bio teacher for 27 years. You will be impressed by his knowledge and visual/engaging teaching style.
Curriculum: See page 2-4
Tuition: $1,599 for the 4-week program (twenty 2-hour lessons to cover all you need to know about AP Bio).

Class Location: Online Zoom Classes

SESSION	SUBJECT/S	DAY/S	DATES	TIMES
1	**AP Biology**	Mon - Friday	Week 1: **July 18, 19, 20, 21, 22** Week 2: **July 25, 26, 27, 28, 29** Week 3: **August 1, 2, 3, 4, 5** Week 4: **August 8, 9, 10, 11, 12** (2-hour per lesson/day)	10 am – 12 pm

1-on-1 private lessons available any time upon request.

Summer 2022 - AP Biology Online Course		
	Living Chemistry Unit 1	**Week 1-1**
1.1	Structure of Water and Hydrogen Bonding	
1.2	Elements of Life	
1.3	Introduction to Biological Macromolecules	
1.4	Properties of Biological Macromolecules	
1.5	Structure and Function of Biological Macromolecules	
1.6	Nucleic Acids	
	Cell Structure and Function Unit 2	**Week 1-2**
2.1	Cell Structure - Subcellular Components	
2.2	Cell Structure and Function	
2.3	Cell Size	
2.4	Plasma Membranes	
2.5	Membrane Permeability	
2.6	Membrane Transport	
2.7	Facilitated Diffusion	
2.8	Tonicity and Osmoregulation	
2.9	Mechanisms of Transport	
2.1	Cell Compartmentalization	
2.11	Origins of Cell Compartmentalization	
	Cellular Energetics Unit 3	**Week 2-1**
3.1	Enzyme Structure	
3.2	Enzyme Catalysis	
3.3	Environmental Impacts on Enzyme Function	
3.4	Cellular Energy	
3.5	Photosynthesis	
3.6	Cellular Respiration	
3.7	Fitness	

	Cell Communication and the Cell Cycle	**Week 2-2**
4.1	Cell Communication	
4.2	Introduction to Signal Transduction	
4.3	Signal Transduction	
4.4	Changes in Signal Transduction Pathways	
4.5	Feedback	
4.6	Cell Cycle	
4.7	Regulation of Cell Cycle	
	Mendelian Genetics and Molecular Genetics	**Week 3-1**
1	Meiosis	
5.2	Meiosis and Genetic Diversity	
5.3	Mendelian Genetics	
5.4	Non-Mendelian Genetics	
5.5	Environmental Effects on Phenotype	
5.6	**Chromosomal Inheritance**	
	DNA replication, Protein Synthesis and Gene Regulation	**Week 3-2**
6.1	DNA and RNA Structure	
6.2	Replication	
6.3	Transcription and RNA Processing	
6.4	Translation	
6.5	Regulation of Gene Expression	
6.6	Gene Expression and Cell Specialization	
6.7	Mutations	
6.8	Biotechnology	
	Evolution	**Week 4-1**
7.1	Introduction to Natural Selection	
7.2	Natural Selection	
7.3	Artificial Selection	
7.4	Population Genetics	

7.5	Hardy-Weinberg Equilibrium	
7.6	Evidence for Evolution	
7.7	Common Ancestry	
7.8	Continuing Evolution	
7.9	Phylogeny	
7.1	Speciation	
7.11	Extinction	
7.12	Variations in Populations	
7.13	Origins of Life on Earth	
	Ecology	**Week 4-2**
8.1	Responses to the Environment	
8.2	Energy Flow Through Ecosystems	
8.3	Population Ecology	
8.4	Effect of Density of Populations	
8.5	Community Ecology	
8.6	Biodiversity	
8.7	Disruptions to Ecosystems	