

## Syllabus – HAAS CAA Placement Test

### Biology

#### Topics:

1	<b>Chemistry of Life</b>
	<ul style="list-style-type: none"> <li>• Biological macromolecules: Composition, energy values, primary functions</li> <li>• Properties of water and its role in living organisms</li> <li>• Enzymes: Roles, effects of pH and temperature on chemical reactions</li> <li>• Cellular processes: Photosynthesis and cellular respiration.</li> </ul>
2	<b>Living Organisms' Organization and Development</b>
	<ul style="list-style-type: none"> <li>• Cell structure and function</li> <li>• Major body systems and processes in living organisms</li> <li>• Interaction of body systems to maintain homeostasis</li> </ul>
3	<b>Inheritance of Traits</b>
	<ul style="list-style-type: none"> <li>• Cell growth and division: Chromosome behavior, consequences of errors</li> <li>• Gene expression and regulation in eukaryotes and prokaryotes</li> <li>• Genetic variations: Mendelian and non-Mendelian genetics</li> </ul>
4	<b>Genetic Technology</b>
	<ul style="list-style-type: none"> <li>• Genetic engineering: Impact on medicine, industry, agriculture</li> </ul>
5	<b>Evolution</b>
	<ul style="list-style-type: none"> <li>• Evolutionary processes: Natural selection, genetic drift</li> </ul>
6	<b>Diversity of Life</b>
	<ul style="list-style-type: none"> <li>• Classification of living organisms</li> <li>• Importance of biodiversity and impact of human activity</li> </ul>
7	<b>Ecological Interdependence</b>
	<ul style="list-style-type: none"> <li>• Ecological concepts: Biomes, ecosystems, communities, habitats, niches</li> <li>• Community interactions and biogeochemical cycles</li> <li>• Energy flow: Food chains and webs</li> <li>• Effects of biotic and abiotic factors on ecosystem stability</li> </ul>