

## Syllabus - HAAS CAA Placement Test

### Biology

**Topics:**

<b>1</b>	<b>Chemistry of Life</b>
	Biological macromolecules: Composition, energy values, primary functions
	Properties of water and its role in living organisms
	Enzymes: Roles, effects of pH and temperature on chemical reactions
	Cellular processes: Photosynthesis and cellular respiration
<b>2</b>	<b>Living Organisms' Organization and Development</b>
	Cell structure and function
	Major body systems and processes in living organisms
	Interaction of body systems to maintain homeostasis
<b>3</b>	<b>Inheritance of Traits</b>
	Cell growth and division: Chromosome behavior, consequences of errors
	Gene expression and regulation in eukaryotes and prokaryotes
	Genetic variations: Mendelian and non-Mendelian genetics
<b>4</b>	<b>Genetic Technology</b>
	Genetic engineering: Impact on medicine, industry, agriculture
<b>5</b>	<b>Evolution</b>
	Evolutionary processes: Natural selection, genetic drift
<b>6</b>	<b>Diversity of Life</b>
	Classification of living organisms
	Importance of biodiversity and impact of human activity
<b>7</b>	<b>Ecological Interdependence</b>
	Ecological concepts: Biomes, ecosystems, communities, habitats, niches
	Community interactions and biogeochemical cycles
	Energy flow: Food chains and webs
	Effects of biotic and abiotic factors on ecosystem stability