



# **COLEGIO ANDINO DEUTSCHE SCHULE**

Kurz Version - Curriculum für 2023-2024 in der Jahrgangsstufe  
11 Currículo de 2023-2024 para los cursos 11

Biology grade 11 – B course	Topic 1: Cell Biology
<p>Contents: Inhalte:</p> <ul style="list-style-type: none"> <li>• Types of cells</li> <li>• Structure and function of cell organelles</li> <li>• Types of tissues (Muscle, Nerve, Connective, Epithelial)</li> <li>• Microscope</li> </ul>	
<p>Topic skills: Students will be able to:</p> <ul style="list-style-type: none"> <li>- Distinguish prokaryotes and eukaryotes</li> <li>- Outline the importance of cell components</li> <li>- Explain the relationship between structure and function of cell components</li> <li>- Develop fresh preparations of plant cells</li> </ul>	<p>General skills: Students can:</p> <ul style="list-style-type: none"> <li>- Carry out, record and evaluate observations.</li> <li>- Derive cause-effect relationships and justify biological facts.</li> <li>- Relate basic cell knowledge with all day life.</li> <li>- Properly use of lab materials.</li> </ul>
Biology grade 11- B course	Topic 2 : Cell metabolism
<p>Contents:</p> <ul style="list-style-type: none"> <li>• Structure of the biomembrane</li> <li>• Mechanisms for transporting substances</li> <li>• Diffusion, osmosis</li> <li>• Plasmolysis, deplasmolysis</li> </ul>	
<p>Topic skills:</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>- Describe structure-function relationships using the biomembrane as a model.</li> <li>- Comprehend and demonstrate passive /active transports and plasmolysis/deplasmolysis</li> <li>- Underline the importance of metabolism for our daily life.</li> </ul>	<p>General Skills</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>- Apply the usage of models in the process of knowledge.</li> <li>- Develop model concepts and apply models.</li> <li>- Plan, carry out, record and evaluate experiments.</li> <li>- Understand and interpret graphical representations.</li> <li>- Explain and interpret biological facts.</li> <li>- Describe, compare and classify biological facts and define technical terms.</li> </ul>

	<p>- Present methods and results of biological observations, investigations and experiments in an appropriate form and argue with them.</p>
Biology grade 11- B course	Topic 3 : Genetics
<p>Contents:</p> <ul style="list-style-type: none"> <li>• Cell cycle_Review</li> <li>• DNA-RNA structure and function</li> <li>• DNA replication</li> <li>• Protein biosynthesis (Transcription, translation)</li> <li>• (Structure and function, dependence of the enzyme effect on different factors)</li> <li>• Mutationen</li> <li>• Genetic engineering methods</li> </ul>	
<p><b>Topic skill</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>- Describe the structure of DNA and RNA (at the molecular level)</li> <li>- Evaluate the meaning of replication, recombination, mutation</li> <li>- Recognize the properly use the genetic code.</li> <li>- Analyze protein biosynthesis.</li> <li>- Understand function and structure of proteins</li> <li>- Illustrate genetic engineering procedures</li> </ul>	<p><b>General skill:</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>- Describe, compare, and classify biological facts.</li> <li>- Define technical terms.</li> <li>- Develop model concepts and apply models.</li> <li>- Discern between every day and technical language and use scientific terminology appropriately.</li> <li>- Explain the importance of technical knowledge for the formation of a scientifically based world view.</li> <li>- Critically reflect on the position of humans, their behavior and actions in nature.</li> </ul>

