

# AP Biology

		Description of Average Weekly Outside Requirements	
<p><b>Main Topics</b> (What main ideas/concepts are covered):</p> <ul style="list-style-type: none"> <li>• Chemistry of Life</li> <li>• Cell Structure and Function</li> <li>• Cellular Energetics</li> <li>• Cell Communication/Cell Cycle</li> <li>• Heredity</li> <li>• Gene Expression and Regulation</li> <li>• Natural Selection</li> <li>• Ecology</li> </ul>	<p><b>Rationale</b> (Why a student should take this course):</p> <p>Taking an AP class helps you stand out to colleges, universities, and scholarship programs by showing them you're willing to work hard to complete college-level work with the possibility of earning college credit.</p>	<p><b>Reading</b> (Text, document, etc.):</p> <ul style="list-style-type: none"> <li>• Students will read from the text approximately 15-20 pages at a time, between 4 and 5 times a week.</li> <li>• Students are responsible for taking notes, lab work, and making up missed work.</li> <li>• Students will be referred to websites with additional readings, as appropriate for content.</li> </ul>	<p><b>Written</b> (Terms, questions, outlines, free response, etc.):</p> <ul style="list-style-type: none"> <li>• Students will "self-quiz" and study college-level questions specifically correlated to that week's content.</li> <li>• Students will write free response questions (short essays) weekly.</li> </ul>
<p><b>Grade Composition</b> (How grades are determined):</p> <p>Homework/Classwork</p> <ul style="list-style-type: none"> <li>• Homework will be assigned often.</li> </ul> <p>Labs and Projects</p> <ul style="list-style-type: none"> <li>• Grades based on preparation, execution, behavior, and clean up; and on reports, effort, and creativity.</li> </ul> <p>Exams</p> <ul style="list-style-type: none"> <li>• Following the completion of a chapter and/or unit.</li> </ul> <p>Quizzes</p> <ul style="list-style-type: none"> <li>• Several throughout each unit.</li> </ul>	<p><b>Skill Development</b> (Skills developed in this course and how):</p> <p>Exercises, discussion, lab work, and creative projects are included to allow a thorough development of science process skills. Students develop a conceptual framework for the field of biology, essay writing skills, and data interpretation skills.</p>	<p><b>Sample Textbook Excerpt:</b></p> <p>"Gene expression begins at the <b>promoter</b>, a region of DNA containing the site where RNA polymerase binds to initiate transcription. As we have mentioned above, not all genes are active (being transcribed) at a given time. Two types of regulatory proteins called <b>transcription factors</b> control whether or not a gene is active: repressors and activators. These proteins bind to specific DNA sequences at or near the promoter.</p> <p>You will see these mechanisms, or combinations of them, as we examine the regulation of prokaryotic, eukaryotic, and viral genes. Let's begin by looking at the regulation of gene expression in prokaryotes."</p> <p>~ <i>Principles of Life, Second Edition</i></p>	
<p><b>Required Skills</b> (Skills necessary to be successful in this course):</p> <ul style="list-style-type: none"> <li>• Reading comprehension</li> <li>• Strong, independent work ethic</li> </ul>			