

NOUVEL CATHOLIC CENTRAL HIGH SCHOOL

CP Biology SYLLABUS

COURSE DESCRIPTION:	<p>This course emphasizes biochemistry, cytology and cellular division, molecular genetics, Mendel's genetics, classification, biodiversity, and ecology. The content for this course includes biological structures and functions, processes and cycles, and systems. Emphasis is placed on explanation, description, analysis, and laboratory study. Skills in observation, experimental design and analysis, and the use of the microscope are developed throughout the course.</p>
MAJOR COURSE GOALS:	<p>By the end of this year students will be able to:</p> <ol style="list-style-type: none">1. Practice scientific reasoning and apply it by constructing, executing, and evaluating scientific investigations of life sciences.2. Explain the structure and function of organic molecules, including carbohydrates, lipids, proteins, and nucleic acids which contain many bonds that store energy.3. Demonstrate the relationship of cell structures, functions, and specialization to life processes.4. Describe the process of photosynthesis and cellular respiration (aerobic and anaerobic) and the role of ATP as it relates to these processes.5. Explain evolution as the result of genetic changes within a population that occur in changing environments over time and that modern evolution includes the concepts of common descent, natural selection, and biodiversity.6. Analyze the dependence of organisms on environmental resources and how matter and energy are transferred throughout ecosystems.7. Explain factors that influence population dynamics, evaluate situations that disrupt ecosystems, and analyze the impact of humans on the environment.8. Compare/Contrast how genetic material is passed from cell to cell by the processes mitosis and meiosis and explain how these processes relate to asexual and/or sexual reproduction.9. Analyze the process of replication and protein synthesis (transcription and translation) as it relates to DNA/RNA and explain how mutations and genetic engineering of DNA result in phenotypic changes in the organism or its offspring.10. Predict patterns of inheritance using laws of heredity and analyze these patterns to explain variation.
COURSE ASSESSMENT PLAN:	<p>Daily lectures with accompanying class and group discussions will allow students to practice the skills and ideas presented. Students will have a lab at least once every two weeks over topics dealing with the current unit of study.</p> <p>Formative assessments include assignments, notebook portfolio, small group discussions, oral question and answer, quizzes, projects and laboratory experiments. Reinforcement homework is assigned on a daily basis. Quizzes vary in format according to Bloom's taxonomy but usually involve knowledge, comprehension, and application questions.</p> <p>Summative assessments include unit tests and projects. Unit tests are a combination of Bloom's lower level questions leading to analysis and evaluation for problem solving. In</p>

	<p>addition, short answer and/or essays accompany each unit test.</p> <p>Enhancement projects will be assigned to allow for in-depth study of content in every unit and may incorporate technology applications with group size differentiation taken into consideration.</p>
SUPPLIES AND MATERIALS NEEDED:	<p>Textbook: <i>Modern Biology</i></p> <p>We will work primarily with power points, laboratory experiments, notes and handouts. It is imperative that students have :</p> <ol style="list-style-type: none"> a) 1 ½ Binder with loose leaf paper b) 10 Dividers – 1 for each unit plus vocab (biochemistry, cytology, cellular processes, molecular biology, Mendel’s genetics, biodiversity, ecology, kingdom overview, and introduction to human systems.) c) Art and Craft Supplies: poster board, colored markers, color pencil, etc to be kept at home d) Access to a computer and internet – School’s lab is acceptable however time after school will be necessary
EXTRA HELP:	<p>I am available everyday from 7:20 AM until school starts, and at lunch. After-school times are available on pre-arranged bases. Students are encouraged to come in for help.</p> <p>Students and parents should always feel free to contact me for help. The best method is emailing me at the address below, which is also on the Nouvel website.</p> <p>In addition, a web-page has been created to accompany the class which has daily study guides, power point presentations with internet applications embedded in them, practice sheets, and enhancement activities. This can be accessed through the Nouvel website.</p> <p>If a student has failed or done poorly on a unit test, they are strongly urged to come in for additional review and can upgrade according to the policy stated above.</p>
INSTRUCTIONAL PHILOSOPHY:	<p>A combination of teaching styles from lecture, to class discussion, to demonstrations, to student based labs, to group work, to projects, to presentations, and laboratory investigations in order to appeal to the many different learning styles of our students.</p> <p>Success in General Biology will require hard work and discipline.</p>
MAJOR COURSE PROJECTS AND INSTRUCTIONAL ACTIVITIES:	<p>Expect the following projects, or similar projects during the course of the year:</p> <ol style="list-style-type: none"> 1. Model Building: Animal Cell, Plant Cell, Organelles, DNA Model, Flower, Biomes, Micro-organisms 2. Essay/Wordle Projects: Cellular Processes: Mitosis, Meiosis, Photosynthesis, Cellular Respiration, DNA Replication, Transcription, Translation, Na/K pumps, Succession, Biogeochemical Cycling 3. Poster/Interactive Posters (Golgster) 4. Video Production: Photosynthesis 5. Cartoon Creation 6. Power points with Embedded Videos
CLASSROOM EXPECTATIONS:	<p>Expectations of the Teacher:</p> <ul style="list-style-type: none"> - The content of the course will be covered as best as possible, barring any unforeseen circumstances.

	<ul style="list-style-type: none"> - Extra help will be made available as required. - Mutual respect is critical in the classroom; therefore, the teacher will respect and trust any student until situations arise that jeopardize such. <p>Expectations of the Student:</p> <ul style="list-style-type: none"> - Rules as stated in the student handbook will be adhered to. - Mobile phones and iPods are not allowed in the classroom. The phone will be immediately confiscated and turned into the main office. - Tardiness and absenteeism will be minimal; and only when it is necessary. It is hard to learn when one is not present. - All work is the responsibility of the student no matter if you attend class or not. Study guides are posted on the web-page and it is your responsibility to be up to date and on task. - Respect, integrity and honesty will be displayed at all times. This includes: <ul style="list-style-type: none"> ▪ Personally, students will be respectful and honest with each other as well as the teacher ▪ All work will be that of the individual; any instance of dishonesty, cheating, intent to cheat and sharing of work will receive a zero. This grade (0) will be given to both parties of work in question. Parents will be notified of the instance. ▪ Care will be taken with the equipment and property within the lab and classroom, equipment will always be returned to its original place, tables/area will be left clean, and all chairs will be pushed in. - Students will commit themselves to learning the topics, when more understanding is required, they will seek help from the teacher. My door is always open! Learning is a two-way communication. 															
<p>HOMEWORK POLICY AND GRADING SCALE:</p>	<p>Your grade will be comprised of the following:</p> <ol style="list-style-type: none"> 1) Summative Assessment: (60%) <ol style="list-style-type: none"> A. Unit Test with Short Answer/Essays 2) Formative Assessments: (40%) <ol style="list-style-type: none"> A. Class Work <ol style="list-style-type: none"> a. Quizzes b. Notebook Portfolio c. Assignments d. Laboratory Experiment e. Homework f. Projects <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">98 – 100 = A+</td> <td style="text-align: center;">87 – 89 = B+</td> <td style="text-align: center;">77 – 79 = C+</td> <td style="text-align: center;">67 – 69 = D+</td> <td style="text-align: center;">Below 60 = F</td> </tr> <tr> <td style="text-align: center;">93 – 97 = A</td> <td style="text-align: center;">83 – 86 = B</td> <td style="text-align: center;">73 – 76 = C</td> <td style="text-align: center;">63 – 66 = D</td> <td></td> </tr> <tr> <td style="text-align: center;">90 – 92 = A-</td> <td style="text-align: center;">80 – 82 = B-</td> <td style="text-align: center;">70 – 72 = C-</td> <td style="text-align: center;">60 – 62 = D-</td> <td></td> </tr> </table> <p>Your assignments and notebooks will be graded according to pre-determined teacher criteria which may include percentage, rubrics, checklists, and/or writing performance. If you are late with any class work a 10% deduction will be calculated into your grade. Class work is accepted late up to one week prior to the end of the marking period.</p> <p>Quizzes and Exams will be graded on a pure percentage bases. They will not be curved.</p> <p>Upgrades are only allowed for exams. If you choose to upgrade, you must sit for a re-</p>	98 – 100 = A+	87 – 89 = B+	77 – 79 = C+	67 – 69 = D+	Below 60 = F	93 – 97 = A	83 – 86 = B	73 – 76 = C	63 – 66 = D		90 – 92 = A-	80 – 82 = B-	70 – 72 = C-	60 – 62 = D-	
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	take at a pre-arranged time with the teacher. The final score of your exam will be determined by the average. No exam may be taken more than twice (the original and one re-take) and retakes are allowed until one week prior to the end of the marking period.
CONTACT INFORMATION:	
Teachers:	Ms. Megan Witte
Email Address:	mwitte@sacschools.org
Phone Number:	The email above is the fastest and surest way of contacting me.