Biochemistry
Syllabus

Course Description
This is an elective course for seniors who wish to take another semester of science. The course is designed for those planning to enter health/biology/chemistry fields. The topics covered will include the structure and functions of organic molecules, proteins (amino acids), enzymes, carbohydrates, lipids, nucleic acids, vitamins, minerals, and food additives. Research topics will include but are not limited to, vitamins, minerals, and food additives.

Pre-requisite Courses
Advanced Biology Advanced Chemistry

Instructional Philosophy
It is the hope of the instructor that upon the completion of this course, students will be able to demonstrate their comprehension of the basic concepts underlying the facts, formulas, and principles of High School Biochemistry. Furthermore, students should develop critical thinking and problem solving skills not only to be used this year, but also in post secondary courses as well as, as an extension into everyday life.

Course Goals
• Explain that carbon – containing molecules can be used to assemble larger molecules with biological activity (including proteins, nucleic acids, sugars, and lipids).
• Describe the function of enzymes in a biological system.
• Classify the four main groups of biologically important organic molecules (carbohydrates, lipids, proteins, and nucleic acids) and their monomer units.
• Differentiate vitamins/minerals from vitamin/mineral supplements.

Major Assignments
• Homework (Approximately 45% of your grade)
• Labs (Approximately 15% of your grade)
• Quiz’s (Approximately 15% of your grade)
• Tests (Approximately 25% of your grade)

* Weekly Literacy Assignment (Journals included in homework)
** Semester Literacy Assignment
**Major Projects and Assessments**

- Students will research an assigned amino acid and create a poster to share with the class.
- Students will research in support or in opposition of vitamin supplements in preparation for a class debate.
- Students will prepare a multi-media technology presentation summarizing each major topic covered through the semester.
- Students will complete several labs throughout the semester.
- Students will take a final semester exam at the completion of the course.

**Grading Plan**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>93 – 100%</td>
</tr>
<tr>
<td>B</td>
<td>85 – 92%</td>
</tr>
<tr>
<td>C</td>
<td>77 – 84%</td>
</tr>
<tr>
<td>D</td>
<td>70 – 76%</td>
</tr>
</tbody>
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_**To earn and “A”, the student must:**_ Consistently perform above expectations and is prompt with assignments. Demonstrates the ability to work independently as well as with others. No or few missing assignments are recorded; high quality work is completed and presented. Attendance in class is consistent and regular; student demonstrates and accepts responsibility.

_**To earn a “B”, the student must:**_ Consistently meets expectations and is usually prompt with assignments. Proficient, quality work is completed and presented. Attendance is regular; student demonstrates knowledge of responsibility.

_**To earn a “C”, the student must:**_ Regularly meet expectations and is occasionally late with assignments. Proficient work is usually completed and presented. Attendance is regular; student demonstrates awareness of responsibility but may lack in acceptance.

_**To earn a “D”, the student must:**_ Fails to meet expectations on a regular basis and is often late with assignments. Below proficient work is presented, often not completed. Attendance is often lacking; student demonstrates little responsibility.

**Re-Do Policy**

Whenever a student performs poorly on an assignment he/she may approach the teacher about a possible replacement assignment or perhaps correcting the assignment in question. In most cases, an average will be recorded.

**Late or Missing Work Policy**

Late work will be accepted for half credit until the test is given. Work turned in after the test, will not count for points but will be noted that it was turned in.

**Extra-Help**

The instructor will refer students to study tables when they have missed 3 assignments. At the instructor’s discretion, she may choose to refer a student sooner. Students may request to be referred to study tables at any time.