TEXT AND MATERIALS:
Students may use the biochemistry text used in the Biochemistry I course. The purpose of this class is to provide chemistry and biochemistry majors additional information than what is covered in the Biochemistry I course. Students will select to attend either livestream or zoom.

PREREQUISITES:
CHEM 3030/3130L (CHE 330/330L) or CHEM 3331/3231L (CHE 331/331L) with a ‘C’ or better. Note that both of these courses also have prerequisites of CHEM 1311 and 1312 with a ‘C’ or better in each.

TIME REQUIREMENTS:
CHEM 4171 is a 1 credit course and typically meets for 50 minutes a week for 15 weeks plus meets for a 2-hour final examination. Students have weekly reading and homework assignments involving critical thinking and quantitative reasoning. Problems and homework assignments will be given. Students are assessed the material via assignments and several quizzes during the semester and a final exam. These activities average at a minimum 2 hours of work each week to prepare outside of classroom hours.

COURSE CALENDAR: ON SEPARATE PAGE

GRADING POLICY:
Assignments - (10 pts per assignments). The dates are shown on course calendar. A total of 10 assignments will be given, and the lowest assignment grade will be dropped.

Quizzes – (25 pts per quiz) The Dates are shown on the course calendar.
**Participation/Professionalism:** 10 pts. Unexplained absences, disrupting class, not working well with a group, etc. will lead to a deduction of points. Students will be notified via email when points are deducted.

**Method of Evaluation/Assessment:** The final grade will be based upon the number of points obtained in the following:

<table>
<thead>
<tr>
<th>item</th>
<th>point value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>100</td>
</tr>
<tr>
<td>Participation/Professionalism</td>
<td>10</td>
</tr>
<tr>
<td>Quizzes</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL PTS</strong></td>
<td><strong>200</strong></td>
</tr>
</tbody>
</table>

**Grading Scale (200 total points)**

≥180 = A; ≥ 160 = B; ≥ 140 = C; ≥ 120 = D; < 119 = F

**Other grading policies**

Any work turned in late will receive a 10% per day deduction beginning with the due date and time.

_The instructor reserves the right to regrade an entire item if the student requests for a regrade on one part._

**Attendance Policy:**

Attendance of class is mandatory. Three (3) or more absences will result in an ‘F’ for the course. Absences may be assigned to anyone that disrupts class, sleeps in class, or consistently comes in late or leaves early.

**Classroom Behavior Policy:**

- The student code of conduct policy is located at; [http://www.sfasu.edu/policies/student-code-of-conduct-10.4.pdf](http://www.sfasu.edu/policies/student-code-of-conduct-10.4.pdf)
- Wearing a face covering when participating face to face
- Professional behavior is expected at all times and includes coming to class prepared and on time.
- Students using Zoom/livestream to attend class should behave as though they are in class. Please turn on cameras and mute microphones until asking or answering a question.
- **Learning biochemistry is NOT a spectator sport.** It takes involvement and participation in learning. Preparation for class should take 2-3 hours outside of class and includes:
  - reviewing material from previous class & reading material before coming to class
  - practicing active recall, understanding terms, making connection between concepts, quizzing yourself
  - completing assignment ins Sapling learning (homework, learning catalytics, reading quizzes)
  - working problems at the end of the chapter in the textbook
- studying for exams
- working on writing assignment

- Contribute to class discussions and group assignments.
- Absences may be assigned to anyone who disrupts class. Read Attendance Policy Section for how this can affect grades.
- Bring a scientific calculator.
- Silence phones and put away unless we are using them as a part of class.
- Be courteous and respectful of other students and instructor.
- Students who violate these rules will be asked to leave. Repeat offenders will be subject to disciplinary action in accordance with University policies as described in the Code of Student Conduct.

**FACE MASKS, COVID-19, ETC.:**

Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions. A student running a fever should attend class via Zoom and should NOT attend a face to face class.


**ACADEMIC INTEGRITY (A-9.1):**

**Definition of Academic Dishonesty:** Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. The academic dishonesty policy is located at [http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf](http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf). Any student found cheating will be subject to the penalties as stated in the Student Code of Conduct handbook; including but not limited to a score of zero on exam, expulsion from the class or expulsion from the University. I will recommend expulsion and will personally notify your department and/or program head.

**WITHHELD GRADES SEMESTER GRADES POLICY (A-54):**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one
calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**STUDENTS WITH DISABILITIES:**
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to Disability Services.

**GENERAL EDUCATION CORE CURRICULUM OBJECTIVES:**
There are no specific general education core curriculum objectives in this course. This course is not a general education core curriculum course.

**COURSE OBJECTIVES:**
Students should achieve the student learning outcomes in the major areas of biochemistry which include but not limited to: amino acids, protein structure/function, protein techniques, nucleic acid structure/function, nucleic acid techniques, enzymes, enzyme kinetics, enzyme mechanisms/regulation, membranes, carbohydrates, and metabolism. Students should be able to integrate this knowledge with critical thinking to solve problems and be able to communicate scientific information through written communication.

**STUDENT LEARNING OUTCOMES:** The student is expected to:
- categorize and connect terminology used in biochemistry especially in relation to proteins, enzymes, DNA/RNA, and other biological molecules, and metabolism (PLO 1)
- integrate and apply biochemical terminology, chemical, biochemical, and mathematical concepts to solving advanced problems in biochemistry (PLO 1, 2)
- effectively communicate biochemical concepts utilizing knowledge gained in the course and from knowledge gained in other courses (PLO 5)

*Additional Information/Resources*
The textbook has chapter summaries at the end of each chapter. Read the complete chapter summary before the class first day the chapter is listed in the calendar. Review slides prior to coming to class.

AK lectures has excellent short videos over various topics biochemical topics and is an excellent resources for biochemistry students. In the Introduction to Proteins section, there are a total of 54 videos. From time to time, I will recommend specific videos. [https://www.youtube.com/watch?v=3vy__KvTi6I&list=PL9jo2wQj1WCNTJhgaXpsI1tzi0bemyl4j](https://www.youtube.com/watch?v=3vy__KvTi6I&list=PL9jo2wQj1WCNTJhgaXpsI1tzi0bemyl4j)
# Tentative Class Calendar Fall 2020
## Theory of Biochemical Methods

<table>
<thead>
<tr>
<th>Week</th>
<th>dates</th>
<th>Topic</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/27</td>
<td>thermodynamics and buffers; general chemistry review</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>2</td>
<td>9/03</td>
<td>DNA/RNA &amp; Flow of Genetic Info.</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>3</td>
<td>9/10</td>
<td>Exploring Genes and Genomes</td>
<td>Quiz 1</td>
</tr>
<tr>
<td>4</td>
<td>9/17</td>
<td>Protein Composition and Structure</td>
<td>Assignment 3</td>
</tr>
<tr>
<td>5</td>
<td>9/24</td>
<td>Exploring Proteins and Proteomes</td>
<td>Assignment 4</td>
</tr>
<tr>
<td>6</td>
<td>10/01</td>
<td>Proteomics</td>
<td>Assignment 5</td>
</tr>
<tr>
<td>7</td>
<td>10/08</td>
<td>Proteomics</td>
<td>Quiz 2</td>
</tr>
<tr>
<td>8</td>
<td>10/15</td>
<td>Enzymes</td>
<td>Assignment 6</td>
</tr>
<tr>
<td>9</td>
<td>10/22</td>
<td>Enzymes</td>
<td>Assignment 7</td>
</tr>
<tr>
<td>10</td>
<td>10/29</td>
<td>Carbs and lipids</td>
<td>Assignment 8</td>
</tr>
<tr>
<td>11</td>
<td>11/05</td>
<td>Metabolism</td>
<td>Assignment 9</td>
</tr>
<tr>
<td>12</td>
<td>11/12</td>
<td>Glycolysis</td>
<td>Quiz 3</td>
</tr>
<tr>
<td>13</td>
<td>11/19</td>
<td>Citric Acid Cycle</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>11/26</td>
<td>THANKSGIVING BREAK</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>12/03</td>
<td>Oxidative Phosphorylation</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12/10</td>
<td>Final Quiz</td>
<td>Quiz 4</td>
</tr>
</tbody>
</table>

The professor reserves the right to alter the syllabus due to weather, university events, or for improved student learning. Students will be notified in via email concerning any changes.