COMPANION BIOCHEMISTRY I Laboratory

Name: Dr. Bidisha Sengupta
Department: Chemistry & Biochemistry
Email: senguptab@sfasu.edu
D2L Website: https://d2l.sfasu.edu/d2l/le/content/419729/Home
Phone: 936-468-2485
Office: Math 112
Class time/location: Lab 2:00 - 4:50 pm Chem 301/303
Student Hours: Mon. - 4:00-5:00 pm; Tues. - 10 - 12 noon, W - 11-12 noon
Important Dates for course registration/drop/withdraw: https://www.sfasu.edu/registrar/registration-information/dates-deadlines

CLASS DESCRIPTION:
1 semester hour, 3 hours of lab per week. Purification and characterization of biomolecules.
Prerequisites: CHEM 3330/3130L or 3331/3131L (≥ C) and CHEM 4352 or concurrent enrollment.
Course hour justification: This course requires three hours of laboratory time per week plus additional preparation time as well as completing assignments (lab notebook, finding/reading journal articles completing virtual labs, and studying for quizzes.

Text and Materials:
A laboratory notebook (bound composition book) will be needed. Handouts/reading assignments for lab will be provided via the D2L class page. Check D2L regularly.

COURSE CALENDAR: ON LAST PAGE OF SYLLABUS

GRADING POLICY: Grades are based on the total number of points earned out of 210 and will follow the letter grades as given below:

\[ A \geq 90\% ; B \geq 80-89\% ; C \geq 70-79\% ; D \geq 60-69\% ; < 60\% = F \]

<table>
<thead>
<tr>
<th>Item</th>
<th>PTS</th>
<th>Point value</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>100</td>
<td>6 quizzes @ 20 pts. each with lowest grade dropped</td>
<td>48</td>
</tr>
<tr>
<td>Lab notebooks</td>
<td>100</td>
<td>Notebooks will be graded 3 times during the semester @ 50 pts each, with lowest grade dropped.</td>
<td>48</td>
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<tr>
<td>SOP</td>
<td>10</td>
<td>Usually warning given first &amp; then student notified of deduction first.</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
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Information about safety, laboratory practices, theory/background information, and protocols will be posted in D2L. A significant amount of personal study and preparation is required to be successful in this laboratory. Students need to thoroughly read information posted before coming to lab.

Standard operating procedure (SOP)/professionalism expectations include, but are not limited to: maintain up-to-date tidy lab notebook, cleaning up after yourself in lab, treatment of instructor, lab assistants, and other students, handling equipment and waste correctly, attendance, and professional communication.

GENERAL LABORATORY NOTEBOOK OUTLINE
1. Title
2. Date
3. Name(s) of Partner(s) if applicable
4. Short but relevant introduction with research article references (required)
5. Materials and Methods: List of reagents and brief description of preparation, Procedure: flowchart, bullets, diagrams
6. Expected results
7. Actual results (data) presented in appropriate format, add chart/table if needed
8. Discussion and Conclusion
9. Continuity – what to do next

**Criteria for grading laboratory notebook (hand written in composition notebooks).**
1. Organization – see above 30 points
2. Legibility and writing skills, novelty 30 points
3. Neatness 10 points
4. Amount of content 20 points
5. Your own point of views on the lab 10 points

**ATTENDANCE POLICY:**
Attendance of class is mandatory. Three 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. For ONE proven excused absence, arrangements for make up work will be made. Any further absences will count as a zero. The lab is face to face. If circumstances change due to Covid, appropriate adjustments will be made and students will be notified, in writing, of any changes.

**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)
- Following all university policies.
- **Follow ALL Departmental safety policies.**
  - Safety glasses/goggles and clothing that completely covers feet, legs torso are required at all times.
- Professional behavior is expected at all times and includes coming to lab prepared and on time.
- Learning biochemistry is NOT a spectator sport. It takes involvement and participation in learning.
  Preparation for lab should take 1-2 hours per week.
  - reviewing material from previous lab & reading material before coming to lab
  - practicing active recall, understanding terms, making connection between concepts, quizzing yourself
  - completing assignments/virtual labs
  - studying for quizzes
  - working on formal report
- Contribute to discussions and group work.
- Absences may be assigned to anyone who disrupts class. See 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 lab.
- Be courteous and respectful of other students and instructor.
- Students who violate these rules will be asked to leave and have points deducted from SOP points. Repeat offenders will be subject to disciplinary action in accordance with University policies as described in the Code of Student Conduct.
- PROFESSIONAL Behavior is expected ALWAYS.

This course meets educator preparation standards for one or more certification programs; a complete listing of all the educator preparation standards this course meets can be found at: [https://sfasu.edu/docs/jacksteach/jacksteach-standards-alignment-chart.xlsx](https://sfasu.edu/docs/jacksteach/jacksteach-standards-alignment-chart.xlsx)

**CODE OF STUDENT CONDUCT AND ACADEMIC INTEGRITY (10.4):**
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or
attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

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.

WITHHELD GRADES SEMESTER GRADES POLICY (5.5):
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. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

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 http://www.sfasu.edu/disabilityservices/.

STUDENT WELLNESS AND WELL-BEING:
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

ON-CAMPUS RESOURCES:
The Dean of Students Office (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

CRISIS RESOURCES:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741

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<tr>
<th>Date (Week)</th>
<th>Lab Schedule</th>
<th>Assignments</th>
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| 08/31 (1)   | Welcome/Lab Intro/Lab Safety/Lab notebooks (Composition notebook from any store) This week through D2L finish the assignments. | 1. ACS Lab Safety [https://www.youtube.com/watch?v=9o77QEeM68&t=1704s](https://www.youtube.com/watch?v=9o77QEeM68&t=1704s) watch for quiz 1.  
2. Students upload biosafety training certificate in dropbox by 9/11 PM (part of Quiz 1) Visit [http://labsafetyworkspace.org/](http://labsafetyworkspace.org/) on Safari or Firefox. The training video requires the use of Adobe Flash Player that is not always supported on Google Chrome. Login to create a free account at the website hosted by Dartmouth College and New Hampshire INBRE. Watch for quiz 1.  
3. Submit the syllabus acknowledgement pdf statement in dropbox by Sept 07 (part of quiz 1). |
| 9/07 (2)     | Pipetting practice, serial dilution, spectrophotometry, Beer’s law | Quiz 1 - over all weeks 1 and 2  
This lab is selected for lab report 1. |
<p>| 9/14 (3)     | Buffer/solution preparation, determination of DNA concentration, DNA model |  |
| 9/21 (4)     | Restriction Enzyme lab will go for 2-3 weeks Restriction Digestion and Analysis of Lambda DNA |  |</p>
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<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Notes</th>
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<tbody>
<tr>
<td>9/28 5</td>
<td>Analysis of Precut Lambda DNA</td>
<td>Restriction Enzyme lab is selected for lab report 2. Quiz 2 – anything from week 3</td>
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<tr>
<td>10/5 6</td>
<td>Contd…</td>
<td>Quiz 3 - anything from weeks 4-5</td>
</tr>
<tr>
<td>10/12 7</td>
<td>Working with Proteins, Bradford Assay</td>
<td>Lab Report 1 due</td>
</tr>
<tr>
<td>10/19 8</td>
<td>Determining the unknown biomolecule</td>
<td>Quiz 4 – anything from week 7</td>
</tr>
<tr>
<td>10/26 9</td>
<td>ELISA</td>
<td>Lab Report 2 due&lt;br&gt;ELISA lab is selected for lab report 3.</td>
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<tr>
<td>11/2 10</td>
<td>Protein Assay</td>
<td>Quiz 5 – anything from weeks 8 &amp; 9</td>
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<tr>
<td>11/9 11</td>
<td>Protein Assay</td>
<td></td>
</tr>
<tr>
<td>11/16 12</td>
<td>Protein Assay</td>
<td>Quiz 6 – anything from weeks 10 &amp; 11</td>
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<tr>
<td>11/23 13</td>
<td>THANKSGIVING BREAK</td>
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<tr>
<td>11/30 14</td>
<td>Lab clean up</td>
<td>Lab Report 3 due</td>
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<tr>
<td>12/07 15</td>
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**Note:** The professor reserves the right to alter the syllabus due to weather, university events, or for improved student learning. Students will be notified of any changes to the syllabus in class and/or via email.

Dr. Bidisha Sengupta
August 29, 2023

Lab notebooks are due by 5:00 pm on dates shown in calendar.
Quizzes will usually be given at 2:00 pm in CHEM 301 unless otherwise announced.