Research Fall 2023
Phytochemicals in Juice CHEM 4176-210
Biofilms and Naocluster CHEM 4176-200

CHEMISTRY BUILDING 303

Instructor: Bidisha Sengupta, Ph.D.
Office: Math 112
E-mail: Bidisha.sengupta@sfasu.edu
Student Hours: M 4 pm - 5 pm, T 10 am - 12 noon, W 11:00 am - 12:00 noon.

In addition to the posted office hours, feel free to stop by my office anytime to chat with me. I am generally moving in between my office and research lab (Chemistry 303), so you can also e-mail me to set up an appointment time outside of my posted office hours.

Course Description: Individual study and/or laboratory research.

Number of Credit Hours: 1 – 4 semester hours

Course Prerequisites and Corequisites: Prerequisite: Permission of instructor. Pass-Fail grading

Required Texts and Other Materials:
- Lab notebook (see me for guidelines)

Required Supplementary Reading: Handouts and journal articles will be provided as needed.

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

Program Learning Outcomes:
1. The student will perform qualitative/quantitative analyses/syntheses using modern instrumentation.
2. The student will articulate scientific information through oral communication. (depending on instructor or project)
3. The student will articulate scientific information through written communication.
4. The student will demonstrate ability to integrate knowledge content, laboratory skill, critical thinking and problem solving, and communication skills via participation in research projects.
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 Objective: The student should demonstrate their ability to conduct chemical research.

Student Learning Outcomes: Upon completion of this course, students will be able to:
- Apply the chemistry knowledge obtained during the college career. (PLO 3, 6)
- Analyze experimental results based upon trends in data. (PLO 5)
- Practice the safe use/handling of chemicals and their proper storage. (PLO 3)

Course Requirements:
You will work in the lab ~6 hours per week for each hour of credit that you are enrolled. At the beginning of the semester, we will decide on a mutually-agreeable time for you to come to lab and work. We will also meet individually to discuss your results and plan your upcoming activities in the lab.

Attendance Policy:
If you cannot make it to work at your scheduled time, please let me know. We can arrange a mutually convenient time to “make-up” the lab work.

Justification of Hours
You will be able to interpret the scientific articles in order to design and perform experiments. Hence around 6 hours in the lab will justify your time requirement. During the time of submitting the report and presentation, you will have to spend extra time in preparing for submission and presentation.

Academic Integrity Policy:
All students are urged to acquaint themselves with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on disability. Copies of the SFA Policies and Procedures Manual can be obtained in print or online from the Office of Academic Affairs (http://www.sfasu.edu/upp/pap/academic_affairs.html).

Semester Withdrawals:
University calendar will be followed.

Academic Disabilities Policy:
Stephen F. Austin State University is committed to providing reasonable accommodations for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with me as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving
accommodations in this course. The Office of Disability Services is located in the Human Services Bldg., Room 325, (936) 468-3004 or (936) 468-1004 (TDD).

I reserve the right to change any items contained in this syllabus. This includes, but is not limited to: course content, scheduled dates, grade cutoffs, and fraction(s) of final grade assigned to individual components of the course. If I need to make such changes, I will inform you of the changes in writing. *This syllabus in no way constitutes a legally-binding contract on my part.*

**General Policies:**

- You are expected to come ready to work in the lab at the times you have agreed to work. If you are not able to come, please contact me (phone or email) and let me know that you won’t be in. We will discuss making up the missed time if the need should arise.
- You should come and check in with me before beginning lab work. Please don’t carry out lab work while I am not around (this is for your safety).
- You are expected to follow all departmental safety rules while working in the lab.
  - Specifically, you are expected to wear approved safety goggles, proper shoes, and long trousers while in lab.
- You will be assigned a drawer in the lab for you to store your lab notebook and other personal items.
- All glassware and equipment in the lab is communal. Be courteous to your fellow labmates. If you need something, use it. After you are done, clean it up and return it to its proper place.
- I expect you to use departmental equipment responsibly. You will not be allowed to use departmental instruments on your own until you have been suitably trained (by me) and I feel confident that you are able to use the instrument safely. Please see me if you are unsure of how to perform a particular procedure or how to use equipment.

**Lab notebooks**
• Check with me (before buying anything) to find out what constitutes an acceptable lab notebook.
• All notebook records are to be kept in **black ink**.
• Keep meticulous experimental details in your lab notebook.
• Make sure you write down everything clearly in your lab notebook.
• Your notebook should be neat, legible, and easy-to-follow.
• Bring your notebook and any other data (e.g. spectra, etc.) you have collected when you come to meet with me to discuss your progress.
• Please provide me both hard copies & electronic copies of any spectra (IR and/or NMR) that you have collected over the semester.
• Please provide me with either carbon copies or photocopies of **all** pages of your lab notebook that you used to record your work in the lab over the semester.
• You will be required to write a short paper at the end of the semester. This paper will be a summary of the work you did and the results you obtained. This paper will be due NO LATER THAN 12:00 noon on May, 10th. Please submit both a hard copy and an electronic copy (email it to me or bring it on a flashdrive).
• In addition, you will be required to make a short presentation to me and the other members of the group. All group members will make presentations on May 5th. The time and place for the presentations will be determined at a later date in order to fit everyone's schedule. Your presentation should be done using PowerPoint and should be 20-25 minutes in length.