

Chemistry 1105/CRN 1934[011] FYRIS: Protein expression for biochemistry and structural studies Fall 2022

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Class Meet:	T R 9:00-11:50am@ CCSBG.0704	Office Hrs:	After class T R 1:30-2:15pm <u>or by appointment</u>
Scope:	An introduction of research methods and techniques in addition to the study of basic chemistry, biochemistry, molecular biology, and microbiology lab skills		
Objective:	To introduce students to basic General Chemistry and Biochemistry concepts and laboratory procedures through authentic research on protein expression for structural studies associated with viruses and human circadian rhythm. The skills, concepts, and techniques will not only help students apply those basic principles learned in <i>General Chemistry I</i> , but will also allow students to actively participate in cutting-edge research and learn to conduct science the way experts do. The lab modules will not necessarily run in synchronicity with CHEM 1305 (the lecture portion of <i>General Chemistry I</i>). Some of the additional material will be presented in the context of the research topic, thus emphasizing the principles of chemistry in real-world applications.		
COVID-19 Precaution Statement:	Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu , so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing. The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org .		
Class Meetings:	Tuesday or Thursday 9:00-11:50pm at CCSB G.0208 in person [§] . (All cell phones and electronic devices that will make sounds should be <u>MUTE</u> during class!!!) [§] <i>The class is an In Person Face-To-Face (F2F) class, NOT an online class unless future policy changes from the university. In order to accommodate as much as possible for students who might be sick or under other extenuating circumstances during to current COVID pandemic such as testing positive and need to stay at home, the instructor will endeavor to live-stream/record the lectures whenever possible and feasible. However, instructor WILL NOT guarantee the live streaming and recording and WILL NOT take responsibility for technical difficulties or reliability issues when adding these flexibility features. The instructor keeps the right to remove these features if they affect the F2F lectures. Please DO NOT use the live streaming or any online resource when you can attend or are attending the lecture in person so the bandwidth and resource can be reserved only for those really needed. The instructor will endeavor to arrange to make up the lab sessions when possible.</i>		
Office Hours:	<u>In Person:</u> After class T R 1:30-2:00pm at CCSB 2.0310 <u>or by appointment</u> <u>Online:</u> After class T R 2:00-2:30 via Zoom <u>or by appointment via Zoom.</u> If you have questions immediately after the class that want to ask and talk to the instructor, please leave the room and wait outside the classroom at the door area in the hallway so we will not affect the next class.		
Required Materials:	ABSOLUTELY REQUIRED NO EXPCEPTIONS: 1. Goggles (Anzi87.1 ONLY) 2. Lab Coat 3. Notebook (All notes must be in pen only. No pencil work will be accepted) Suggested: Laptop computer, scientific calculator, and a Sharpie		

Safety Guidelines: You will be exposed to hazardous chemicals. Personal Protective, Equipment (PPE) is necessary to protect your body. You will not be admitted to the lab if any of the following safety guidelines are not met. If you violate safety guidelines, you will be asked to leave the lab and a grade of **ZERO for the day's lab work will be issued.**

1. Shoes that cover the **entire foot** are required at all times.
2. Goggles or appropriate safety glasses are required at all times
3. Long sleeves and long pants are mandatory.
4. No musical devices may be used in the chemistry labs at any time

Use of the cell phones is **NOT** permitted and must be on silent and placed in **YOUR BAG** before you enter the lab.

Grading: Participation: 60 + (Bonus Points);
Quizzes: 10;
Final Report & Presentation: 30

A: 80 (include 80) or above;

B: 60 (include 60) to 80;

C: 40 (include 40) to 60;

D: 20 (include 20) to 40;

F 20 below.

Participation: Students are expected to attend every lab period and come prepared to actively participate. There will be bonus points for participation in research after class hours.

Safety & Cleaning Up: It is your responsibility to maintain your bench space clean, put chemicals away, wash your glassware, and collaborate with your team members. NOT doing so will result in points being deducted from your grade. (2 points) will be deducted from each member of the group even if one of the members do not clean up after themselves.

Bonus points: Every student can earn bonus points. Semester attendance bonus points: Bonus points will be given to students' participation portion: 10 points if attended all the classes. 6 points if attended all the classes except documented absence (DA). 4 points if attended all but one class (one waived absence (WA) but no other missing class except document absence.

Extra points for post-class hour work up to 10%. Post-class hour work is defined by the ownership of the project that the student took extra hours to shadowing research students (1 to 2) or learning and practicing lab skills (up to 10).

Quizzes: Quizzes will be given at the beginning and end (some might move to downtime between experiments) during the lab period and will cover material for the current experiments or from previous experiments and concepts. Quizzes will last 10 to 15 minutes using web-based quiz systems. Missed quizzes due to absences **cannot** be made up and will be dropped only under exceptional cases with valid and documented written excuses.

Final Report /Presentation: Students might be grouped into different projects. However, students individually have to work on their own project, write a report explaining one of the projects and explain the experimental processes in general concepts. They are expected to explain their project providing logical reasons and rationales. The report will be due during the last week of the semester. The reports will be judged based on their overall originality and creativities. The students are also expected to give a final short presentation about their project. For rubric for the presentation, please see the appendix. This is the rubric that will be used to score presentations. The instructor's score sheet will add up to a total of 100 points. The student's evaluations will add up to a total of 100 points. The average of the students' evaluations will be added to the instructors' scores to add up to a total of 200 points. The Final Report is worth 30% of the written and oral presentation. Breakdown percentages will be: 200 total points, 75 % Written Part (Individual) 25% Oral Presentation Part (Individual)

Plagiarism: "Plagiarism" means the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. This includes intentionally, knowingly, or carelessly, presenting the work of another as one's own; failing to credit sources used in a work product; attempting to receive credit for work performed by another; failing to cite the World Wide Web, databases, and other electronic resources. Written work will be checked for plagiarism.

Copyright Statements and Policy: The contents of the syllabus, lectures, assignments, and quizzes are protected by copyright, by the instructors. Copying and/or electronic posting of any of the content of this course is strictly prohibited. No fair use or public domain provision is authorized. The use of recordings will enable you to have access to reviewing lectures, group discussions, and so on in the event, you miss in-person class meeting due to illness or other extenuating circumstances. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP's acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructors will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. You may not share recordings outside of this course. Doing so may result in disciplinary action such as loss of UTEP Information Resource access privileges (including internet access/e-mail) and other disciplinary actions described in **Academic Integrity Policy** below.

Academic Integrity Policy: As a part of the zero-tolerance policy, suspected cases or acts of alleged scholastic dishonesty (CHEATING) will be dealt with University regulations. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, and the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student or the attempt to commit such acts. This means automatic referral to any adjudication by the Dean of Students for investigation and appropriate disposition. If the student is suspected of scholastic dishonesty, the student may not be directly confronted about his or her conduct by the instructor or by the proctors. However, the student will be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) and his or her exam will not be admissible. Copyright violations will also be reported to OSCCR to initiate a formal investigation. The student's grade in the class may not be available until OSCCR makes a final ruling, this may adversely impact the student's ability to enroll in other classes. Other actions including suspension may also be perused following University regulations. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

Academic Dispute: When a dispute between a student and the instructor happens, the student is referred to university policies: <http://catalog.utep.edu/undergrad/academic-regulations/student-life-policies-and-procedures/>. For complaints solely involving a grade dispute that doesn't require referral to University's Equal Opportunity office, the recommended process in the Department of Chemistry and Biochemistry is as follow:

1. The student must first discuss the issue with the instructor to seek a satisfactory resolution.
2. Having failed to resolve the matter after consultation with the instructor in Step (1), the student can bring the dispute to the attention of the Department of Chemistry and Biochemistry Chair, who will:
 - a. Verify that the student has already sought resolution in Step (1) above. If the student has not taken Step (1), the Department Chair will refer the student to the instructor before proceeding further.
 - b. Discuss with both the instructor and student, try to resolve the dispute.
3. If a satisfactory resolution was not achieved in Step (1) and (2) above, the student can bring the matter to the attention of the College of Science, following all guidelines of the COS student academic complaint process.

1. If a satisfactory resolution was not achieved in all steps above, the student should bring the complaint to the Student Grievance Committee of the Faculty Senate no later than one (1) year after the official grade has been released to the student, or in the case of a student who has graduated, no later than three (3) months after the degree has been conferred.

- Withdrawal Policy:** There is a deadline (Oct 28th) for student to withdraw from any course with an automatic “W”. Please note that it is the students’ responsibility to officially withdraw from the course. The College of Science (CoS) aligns with UTEP with respect to the drop date and will not approve any course withdrawals after that date. There are always extenuating circumstances such as a death in the family or an illness; therefore, CoS will approval a complete withdrawal of all courses – not just one course in these cases. The grades of Incomplete “I” must be accompanied by an Incomplete Contract that has been signed by the instructor, student, departmental chair, and the dean. The CoS requests the contract be limited to one month based upon completion data. A grade of “I” is only used in extraordinary circumstances confined to a limited event. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.
- Accommodation Policy:** If the student needs special classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at <https://www.utep.edu/student-affairs/cass/>. As per UT System policy, CASS staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities. Please ensure the instructor receives the letters of accommodation at the beginning of the semester. The student also needs to arrange a meeting with the instructor no later than the first two weeks of the semester to discuss a reasonable accommodation. Accommodation must be coordinated in advance with the instructor in the first two weeks. Otherwise, the accommodation will not be guaranteed.
- Students with Pregnancies:** If you are pregnant or you become pregnant, please consult with your physician, student health center as well as UTEP EH&S for recommended whether you drop the course. If you chose not to drop, then lab coat and long sleeves, long pants and gloves, for every lab are mandatory.
- Student Support Resources:** UTEP provides a variety of student services and support:
- Technology Resources:
- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.
- Academic Resources
- [UTEP Library](#): Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
 - [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- Individual Resources
- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
 - [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.
 - [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

Tentative Schedule for Experiments*

Events	Date (Tue)	Date (Thr)	Assignment
No Lab	Aug. 23 rd	Aug. 25 th	Instructors' preparing week. No lab
Intro	Aug. 30 th	Sept. 1 st	First day of classes, Review syllabus, introduce how to study
No Lab	Sept. 6 th	Sept. 8 th	Observance of Labor Days
Exp. 1	Sept. 13 th	Sept. 15 th	Refresh of atoms, periodic table and bond formation and their relationship to life. Knowledge of general lab equipment and their functions.
Exp. 2	Sept. 20 th	Sept. 22 nd	Central dogma, protein structure in general embedding bones and thermodynamics Knowledge and practice cleaning, weighing samples, MW, units
Exp. 3	Sept. 27 th	Sept. 29 th	Introduction to circadian rhythm (interactive) Knowledge and practice volume and measure volume, concentrations
Exp. 4	Oct. 4 th	Oct. 6 th	Introduction of Virus and host (interactive) Knowledge and practice pipetting.
Exp. 5	Oct. 11 th	Oct 13 th	Showing different specific projects in the group (group members) Knowledge and practice repeat for weight, volume and concentration, pipetting skill passing tests
Exp. 6	Oct 18 th	Oct. 20 th	Group students and choose the project. Knowledge and practice in stoichiometric calculations
Exp. 7	Oct 25 th	Oct. 27 th	Overall research rationale, ethics, and methods, introduce SOP Practice concentration calculations in groups
Exp. 8	Nov. 1 st	Nov. 3 rd	Outline the project report and check the student progress of final report Knowledge of acid, base, buffer and pH.
Exp. 9	Nov. 8 th	Nov. 10 th	Check and help student progress of final report and show how to present and make PPT Practice the buffer concept calculation and knowledge to make a buffer
Exp. 10	Nov. 15 th	Nov. 17 th	Check the progress of student preparing the presentation and report Practice making a buffer.
No Lab	Nov. 22 nd	Nov. 24 th	Observance of Thanksgiving Holidays
Final/Pres.	Nov. 29 th	Dec. 1 st	Submit final report and short presentations

*** We may end up going slower or faster depending on how the class is doing or unpredictable events.**