

RECEIVED

JAN 14 2015

Course Information

Date Submitted: 11/6/2013

Current Prefix and Number: CHE - Chemistry , CHE 554 BIOLOGICAL CHEMISTRY LABORATORY

OFFICE OF THE
SENATE COUNCIL

Other Course:

Proposed Prefix and Number: CHE 454

What type of change is being proposed?

Major Change

Should this course be a UK Core Course? No

1. General Information

a. Submitted by the College of: ARTS & SCIENCES

b. Department/Division: Chemistry

c. Is there a change in 'ownership' of the course? No

If YES, what college/department will offer the course instead: Select...

e. Contact Person

Name: A.-F. Miller

Email: afm@uky.edu

Phone: 7-9349

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

f. Requested Effective Date

Semester Following Approval: No, OR Effective Semester: Spring 2014

2. Designation and Description of Proposed Course

a. Current Distance Learning (DL) Status: N/A

b. Full Title: BIOLOGICAL CHEMISTRY LABORATORY

Proposed Title: Biological Chemistry Laboratory

c. Current Transcript Title: BIOLOGICAL CHEMISTRY LABORATORY

Proposed Transcript Title:

d. Current Cross-listing: none

Proposed – ADD Cross-listing :

Proposed – REMOVE Cross-listing:

e. Current Meeting Patterns

LABORATORY: 4

Proposed Meeting Patterns

LABORATORY: 4

f. Current Grading System: ABC Letter Grade Scale

Proposed Grading System: *Letter (A, B, C, etc.)*

g. Current number of credit hours: 2

Proposed number of credit hours: 2

h. Currently, is this course repeatable for additional credit? No

Proposed to be repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester? No

2i. Current Course Description for Bulletin: An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules.

Proposed Course Description for Bulletin: same: An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules.

2j. Current Prerequisites, if any: Prereq: CHE 232, CHE 550 or CHE 552, and a physical chemistry course at or above the 400 level, or consent of instructor.

Proposed Prerequisites, if any: same: Prereq: CHE 232, or CHE 550 and a physical chemistry course at or above the 400 level (eg. CHE 440), or consent of instructor.

2k. Current Supplementary Teaching Component:

Proposed Supplementary Teaching Component: No Change

3. Currently, is this course taught off campus? No

Proposed to be taught off campus? No

If YES, enter the off campus address:

4. Are significant changes in content/student learning outcomes of the course being proposed? No

If YES, explain and offer brief rationale:

5a. Are there other depts. and/or pgms that could be affected by the proposed change? No

If YES, identify the depts. and/or pgms:

5b. Will modifying this course result in a new requirement of ANY program? No

If YES, list the program(s) here:

6. Check box if changed to 400G or 500: No

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11.I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|MEIER|Mark S Meier|CHE 554 CHANGE Dept Review|20131029

SIGNATURE|RHANSON|Roxanna D Hanson|CHE 554 CHANGE College Review|20140404

SIGNATURE|JMETT2|Joanie Ett-Mims|CHE 554 CHANGE Undergrad Council Review|20150114

Courses	Request Tracking
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Course Change Form

<https://myuk.uky.edu/sap/bc/soap/rfc?services=>

[Open in full window to print or save](#)

Generate R

Attachments:

Upload File

Browse...

	ID	Attachment
Delete	4237	Syllabus_CHE454_Update9Jan2015.pdf
Delete	4238	CourseChangeCHE454_9Jan2015.pdf

First 1 Last

Select saved project to retrieve... Get New

NOTE: Start form entry by choosing the Current Prefix and Number (*denotes required fields)

Current Prefix and Number:	CHE - Chemistry CHE 554 BIOLOGICAL CHEMISTRY LABORATORY	Proposed Prefix & Number: (example: PHY 401G) <input type="checkbox"/> Check if same as current	CHE 454
* What type of change is being proposed?		<input checked="" type="checkbox"/> Major Change <input type="checkbox"/> Major - Add Distance Learning <input type="checkbox"/> Minor - change in number within the same hundred series, except 799 is the same "hundred series" <input type="checkbox"/> Minor - editorial change in course title or description which does not change in content or emphasis <input type="checkbox"/> Minor - a change in prerequisite(s) which does not imply a change in course content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s) <input type="checkbox"/> Minor - a cross listing of a course as described above	
Should this course be a UK Core Course? <input type="radio"/> Yes <input checked="" type="radio"/> No			
If YES, check the areas that apply:			
<input type="checkbox"/> Inquiry - Arts & Creativity <input type="checkbox"/> Composition & Communications - II <input type="checkbox"/> Inquiry - Humanities <input type="checkbox"/> Quantitative Foundations <input type="checkbox"/> Inquiry - Nat/Math/Phys Sci <input type="checkbox"/> Statistical Inferential Reasoning <input type="checkbox"/> Inquiry - Social Sciences <input type="checkbox"/> U.S. Citizenship, Community, Diversity <input type="checkbox"/> Composition & Communications - I <input type="checkbox"/> Global Dynamics			
1. General Information			
a.	Submitted by the College of: ARTS & SCIENCES	Submission Date:	11/6/2013
b.	Department/Division:	Chemistry	
c.*	Is there a change in "ownership" of the course? <input type="radio"/> Yes <input checked="" type="radio"/> No If YES, what college/department will offer the course instead? Select..		
e.*	* Contact Person Name: A.-F. Miller	Email: afm@uky.edu	Phone: 7-9349
	* Responsible Faculty ID (if different from Contact):	Email:	Phone:
f.*	Requested Effective Date:	<input type="checkbox"/> Semester Following Approval	OR <input type="checkbox"/> Specific Term: 2 Spring 2014
2. Designation and Description of Proposed Course.			
a.	Current Distance Learning(DL) Status:	<input checked="" type="radio"/> N/A <input type="radio"/> Already approved for DL* <input type="radio"/> Please Add <input type="radio"/> Please Drop	
*If already approved for DL, the Distance Learning Form must also be submitted <u>unless</u> the department affirms (by checking this box) that the proposed change affect DL delivery.			
b.	Full Title:	BIOLOGICAL CHEMISTRY LABORATORY	Proposed Title: * Biological Chemistry Laboratory

c.	Current Transcript Title (if full title is more than 40 characters):	BIOLOGICAL CHEMISTRY LABORATORY			
c.	Proposed Transcript Title (if full title is more than 40 characters):				
d.	Current Cross-listing:	<input checked="" type="checkbox"/> N/A	OR	Currently ³ Cross-listed with (Prefix & Number):	none
	Proposed – ADD ³ Cross-listing (Prefix & Number):				
	Proposed – REMOVE ^{3,4} Cross-listing (Prefix & Number):				
e.	Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours ⁵ for each meeting pattern				
Current:	Lecture	Laboratory ⁵	Recitation	Discussion	Indep. Study
		4			
	Clinical	Colloquium	Practicum	Research	Residency
	Seminar	Studio	Other	Please explain:	
Proposed: *	Lecture	Laboratory ⁵	Recitation	Discussion	Indep. Study
		4			
	Clinical	Colloquium	Practicum	Research	Residency
	Seminar	Studio	Other	Please explain:	
f.	Current Grading System:	ABC Letter Grade Scale			
	Proposed Grading System:*	<input checked="" type="radio"/> Letter (A, B, C, etc.) <input type="radio"/> Pass/Fail <input type="radio"/> Medicine Numeric Grade (Non-medical students will receive a letter grade) <input type="radio"/> Graduate School Grade Scale			
g.	Current number of credit hours:	2	Proposed number of credit hours:*	2	
h.*	Currently, is this course repeatable for additional credit?				<input type="radio"/> Yes <input checked="" type="radio"/> No
*	Proposed to be repeatable for additional credit?				<input type="radio"/> Yes <input checked="" type="radio"/> No
	If YES:	Maximum number of credit hours:			
	If YES:	Will this course allow multiple registrations during the same semester?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
i.	Current Course Description for Bulletin:				
	An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules.				
*	Proposed Course Description for Bulletin:				
	same: An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules.				
j.	Current Prerequisites, if any:				
	Prereq: CHE 232, CHE 550 or CHE 552, and a physical chemistry course at or above the 400 level, or consent of instructor.				
*	Proposed Prerequisites, if any:				

	same: Prereq: CHE 232, or CHE 550 and a physical chemistry course at or above the 400 level (eg. CHE 440), or consent of instructor.	
k.	Current Supplementary Teaching Component, if any:	<input type="radio"/> Community-Based Experience <input type="radio"/> Service Learning <input type="radio"/> Both
	Proposed Supplementary Teaching Component:	<input type="radio"/> Community-Based Experience <input type="radio"/> Service Learning <input type="radio"/> Both <input checked="" type="radio"/> No Change
3.	Currently, is this course taught off campus?	<input type="radio"/> Yes <input checked="" type="radio"/> No
*	Proposed to be taught off campus?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	If YES, enter the off campus address:	
4.*	Are significant changes in content/student learning outcomes of the course being proposed?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	If YES, explain and offer brief rationale:	
5.	Course Relationship to Program(s).	
a.*	Are there other depts and/or pgms that could be affected by the proposed change?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	If YES, identify the depts. and/or pgms:	
b.*	Will modifying this course result in a new requirement ² for ANY program?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	If YES ² , list the program(s) here:	
6.	Information to be Placed on Syllabus.	
a.	<input type="checkbox"/> Check box if changed to 400G or 500.	If changed to 400G- or 500-level course you must send in a syllabus and you must include the differentiation between under and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grad criteria in the course for graduate students. (See SR 3.1.4.)

¹See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair. If Chair deems the change as "not minor," the form will be appropriate academic Council for normal processing and contact person is informed.*

²Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

³Signature of the chair of the cross-listing department is required on the Signature Routing Log.

⁴Removing a cross-listing does not drop the other course -- it merely unlinks the two courses.

⁵Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting genes least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

⁶You must also submit the Distance Learning Form in order for the course to be considered for DL delivery.

⁷In order to change a program, a program change form must also be submitted.

Submit as New Proposal Save Current Changes



UNIVERSITY OF KENTUCKY

Prof. J. D. Bender, D.M.A.
Assoc. Prof. of Voice,
University of Kentucky School of Music
Schmidt Vocal Arts Centre, 412 Rose Street
Lexington, KY 40506-0433
dennis.bender@uky.edu
cc camille.harmon@uky.edu
<http://www.as.uky.edu/mini-grant-awards>

ANNE-FRANCES MILLER,
PROFESSOR OF CHEMISTRY
& MOLECULAR & CELLULAR BIOCHEMISTRY
UNIVERSITY OF KENTUCKY
505 ROSE ST.,
LEXINGTON, KENTUCKY 40506-0055
(859) 257-9349 AFM@UKY.EDU

9 January 2015

Amendments to syllabus for CHE 454

Dear Prof. Bender,

I write to enumerate changes present in the attached amended syllabus for CHE 454. As per your request of 8 Oct. 2014 the syllabus now describes a mechanism by which students can make up for excused absences, it employs the \geq symbol in conjunction with the $>$ symbol to remove ambiguity from the grading scale, it includes a complete 10-digit telephone number for me.

Thank you for your kind assistance with this process, I really appreciate it,

A handwritten signature in cursive script that reads "Anne-Frances Miller".

Anne-Frances Miller
Professor of Chemistry

Biological Chemistry Laboratory

CHE 554, Spring 2014

Instructor: Dr. Anne-Frances Miller
Office: Chem/Phys bldg Room 113 Phone: (859) 257-9349
Email: afm@uky.edu
Web Site: <http://www.chem.uky.edu/courses/che554/>

Meeting times and course logistics

Section 1-Lab: Tuesday and Thursdays from 1:30 PM to 3:30 PM in CP-236
Section 1-Lectures: From 12:30 to 1:20 in CP-222 (Tuesday and/or Thursday) Time slot will be used for laboratory exercises when not devoted to a lecture.
Section 2-Lab: Tuesday and Thursdays from 5:00 PM to 7:00 PM in CP-236
Section 2-Lectures: From 4:00 to 4:50 in CP-222 (Tuesday and/or Thursday) Time slot will be used for laboratory exercises when not devoted to a lecture.
Office Hours: Please speak with me during any of our assigned Lab times, or email to schedule an appointment. Remember, I am here to help you with this class. If you need help, I expect you to tell me.
Final Exam: Thursday 8 May at 10:30 am in CP-222
Mid-term: Midterm grades will be posted in myUK by the deadline established in the Academic Calendar.
Absences: require written notice >1 week in advance and written documentation demonstrating that the absence qualifies as an excused absence under University regulations.

Course Description: An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules. Prereq: CHE 232, CHE 550 or CHE 552, and a physical chemistry course at or above the 400 level or consent of the instructor.

Student Learning Outcomes: After completing this course, participants will be able to execute work-horse techniques of biological chemistry, enabling them to hit the ground running in a first job. Participants will be able to understand the data produced by these techniques, determine whether the experiment has functioned correctly, diagnose and correct failures. Participants will be able to design experiments implementing the techniques (including controls) and make strategic decisions as to how and when to implement the techniques. Participants will understand the theory associated with the methods covered and be critical users and consumers of the data produced by the experiments discussed. Participants will be able to maintain a laboratory notebook conforming to professional standards.

Required Materials

Textbook: Experimental Biochemistry (3rd Edition), Switzer and Garrity.
ISBN 0-7167-3300-5
Additional: Lab coat, safety glasses, USB memory stick, Lab notebook with duplicate pages

Teaching Assistants (2013)

Mr. John Hoben jphoben@gmail.com
Ms. Jianing Wang jn.wang@uky.edu

Ms. Brittney Metts brittney.metts@uky.edu
Ms. Warintra Pitsawong warintra_p@hotmail.com

Course Grading: All lab reports combined account for 70% of your final grade. Each of the two exams will count towards 10% of your final grade. The remaining 10% will reflect all measures of laboratory conduct. This includes safety issues, being prepared, being cooperative, being independent, professional orderly conduct etc. Given the relatively small size of this class it is not possible to predict in advance the cutoffs for letter grades, however a tentative prediction follows: a score $\geq 92\%$ will be an 'A', $92 > x \geq 83$ will be a 'B', $83 > x \geq 74$ will be a 'C', $74 > x \geq 65$ will be a 'D' and lower scores will constitute failing grades.

Assignments: Lab reports

There are a total of 9 lab reports due in this class. The value of each report is listed at the end of this syllabus. Lab reports are the pages from your laboratory notebook, the white original pages, with no additional material. Thus all figures and charts need to be taped or glued onto your notebook pages and provided with captions to integrate them into the narrative. (Retain the duplicate pages for your own records, and if those are not clear, you are advised to scan or photograph your original pages before turning them in.) Lab reports are read in detail by Teaching Assistants, who will provide detailed commentary. Both are then reviewed by Prof. Miller for a final grade. Be sure that you understand the comments as these are provided to aid in improving the lab performance and reports. Information concerning how to write your reports will be provided separately. Reports not turned in on time, unless for approved excused reasons, will be given a 10% grade reduction for each week they are late.

The pre-lab section of your report must be COMPLETE before the lab exercise begins. Students cannot begin working until their pre-lab section is complete, T.A.s have been instructed to annotate lab report to indicate pre-labs that were not complete at the beginning of the laboratory period. Students whose pre-labs are not complete at the beginning of the laboratory period may not be allowed to finish their work. T.A.s are not obligated to stay late for students who had not completed their pre-labs on time and students may not work in the laboratory without supervision of a T.A. or Prof. Miller.

Attendance Policy

Because this is a laboratory class, and because all experiments are necessary to satisfy the requirements for ACS accreditation for this course, all students will be expected to complete all assignments.

Attendance at official times is mandatory. We cannot provide TA supervision on an individual basis. After the first *unexcused* absence, each additional *unexcused* absence will result in a single letter reduction in your final grade. Anyone more than 10 minutes late to lab will be considered absent and will not be able to participate on that particular day. (Recall that many labs will utilize the lecture hour and begin at the beginning of the lecture time.) Because of the nature of biological chemistry experiments, they are difficult to make up on an individual basis.

Course Material

This class will use the textbook "Experimental Biochemistry" (3rd Edition), Switzer and Garrity, W. H. Freeman and Company, New York. You must have the textbook. Prof. Miller will also make available to you, in electronic form, all of the lectures. I recommend that you print out the instruction page and have them with you in lab. I will post them on the course web site at least 24 hours in advance of each lecture, or I will bring printed copies to class with me for you."

Miscellaneous

The student is responsible for all equipment they use. In other words, if you break it, you are responsible for replacing it. The student will also be responsible for obtaining a lab coat (non-synthetic), a lab notebook, and a USB memory stick. Make sure the notebook has the yellow pages (duplicates). Lab work cannot begin until lab safety agreements are signed and returned.

Lab coats and goggles **must** be worn in the lab at all times. You must wear proper footwear and clothes that cover your legs completely and come up high enough at the neck to fill the 'V' of the lab coat neck. No loose hair, jewelry or clothing. Do not wear clothing that can catch on furniture or equipment, hang into reagents or ice buckets, or is long or tight enough to impede your movements in any way. Avoid flammable fabrics. Cell phones need to be turned off except for pre-approved reasons. Anyone behaving in an unsafe or disrespectful manner in the lab will be made to leave the lab and a grade of zero will assigned on the given lab assignment. For much of the time we will be wearing lab gloves. These are in part to protect our easily contaminated biological reagents, but they also play a vital role in protecting biological chemists from hazards such as pathogenic or drug-resistant bacteria, genetic material and viruses. Despite the apparent safety of the reagents we will be using, students are required to observe standard safe practices in sterility and lab hygiene. Do not use gloved hands to touch food, cosmetics, your face, hair, doorknobs, cell phones Nothing you will later touch without gloves on.

Biological reagents do not smell strong or have alarming colours, but a very tiny amount, even a single molecule, has the capacity to be deadly. Keep your brain on the job and do not cut corners. Similarly, if you see any other person in lab compromising on safety, speak up.

Cheating and plagiarism in any form will not be tolerated, and will result in a grade of zero for the final grade of the course. Please note that cheating takes many forms. You are not allowed to share data without permission from the T.A. or the instructor. When a colleague's data are used to augment useless data, the original (useless) data still need to be recorded and the data provided by a colleague must be accompanied by a statement of credit and an explanation of why a colleague's data are being used. The T.A./instructor's initials need to be present to recognize that the sharing has been approved. (Experiments do fail, there will be instances in which we will provide data to students whose own data does not provide a path forward.) You are allowed to discuss your experiments with others, and to get tips from others or watch how they do something, but the reports must be 100% your own data, your own words, and your own answers and conclusions. Everyone must execute their experiments and reports themselves independently of others.

Cameras will be available for students to use to document experimental apparatus set-up and results. However students preferring to use their own camera are welcome to do so. Photo-documentation of procedures, data and analysis need to be taped into the lab report and should be present in both the official report that will be turned in as well as the copy that will be retained.

Excused Absences:

Students missing any graded work bear the responsibility of notifying the professor, in writing, of absences prior to the lab exercises or classes in question when possible, but no later than one week following the period of absence. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students are responsible for notifying the instructor, in writing, of anticipated absences due to observance of major religious holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students missing a particular exercise due to an excused absence or observance of a major religious holiday will have the opportunity to perform the exercise during the lab time of the other section of the class, when that section conducts the exercise in question. Because this requires advanced planning we request advanced notice whenever possible. Because this is a laboratory course students are expected to withdraw from the class if more than 20% of the laboratory exercises scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity:

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or

otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability:

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Lab Reports

Lab reports are due *before class starts* on the day that is 2 weeks after the date on which the experimental activities were completed in lab, except for the last two lab reports which are due on 26 April by midnight. Pages are to be in order and **stapled**. Reports are to be put in Prof. Miller's faculty mailbox, *on top* of other mail.

The lab report is the set of original laboratory notebook pages, pulled from the notebook. The intention is that nothing need be copied over. Duplicate pages are the student's personal copy of the work, which will hopefully prove to be a useful resource in the future. All computer outputs such as graphs, charts and printed photos should therefore be printed in duplicate so that one copy can be taped into a designated spot in the original sheet (to be turned in) and another can be taped into the duplicate sheet (to be retained).

Number	Report	Points
Laboratory Assignment #1	Molecular modeling, homology search and prediction of properties NR-NADOX & Gromos :model binding of a drug/hormone	10
Laboratory Assignment #2	Spectrophotometry (serial dilution and determination of protein ϵ_{280})	15
Laboratory Assignment #3	ELISA	10
Laboratory Assignment #4	Enzyme Kinetics (& kinetic mechanism)	15
Laboratory Assignment #5a	PCR (design primers, PCR, trim or cleave, agarose electrophoresis)	10
Laboratory Assignment #5b	Site-directed mutagenesis (primers, PCR, nuclease, agarose electP)	10
Laboratory Assignment #6	Molecular Biology cut plasmid (**above) ligase, transform, select,	10
Laboratory Assignment #7	Expression, SDS PAGE, bioassay, and \pm IPTG \pm drug titers	15
Laboratory Assignment #8	Affinity Chromatography, SDS PAGE His6-NR or blue column on NADOX	10
Laboratory Assignment #9	Fluorescence Spectroscopy WT vs. mutant and Protein Structure In absence of mutants compare NR and NADOX or apo and homo NR	10
Total possible		115
Laboratory grade will be out of		100

Brittney 20/115=.17 effort vs. time 50/270=.19 3:30-4:45 T, R

Ning 28 Jan - 11 Feb and ****help with cloning**** 10/115=.09 effort vs. 20/270=.07 time

John Hoben ****and develop cloning**** 30/115=.26 effort vs. 100/270=.37 time

Jianing 45/115=.39 vs. 100/270 = .37 time

Report Guidelines

The basis of the lab report in this class is the notebook. All required information will be hand written in your notebook, and your notebook will be graded as your lab report. The only exception is processed data, which will be taped into your notebook. Note that you need two copies of all data in your notebook: one to hand in and one to keep. This includes taped-in material.

Your TAs will evaluate the reports and provide commentary (guidance). Please discuss these with your T.A. if you are in any doubt as to what is required. Your instructor will also be glad to discuss the reports with you. Each of the sections below will be graded independently using a grading scale of 1 through 10, where 1-2 is 'inadequate', 3-4 is 'weak', 5-6 is 'acceptable', 7-8 is 'good', and 9-10 is 'excellent'. The Pre-lab will be worth 30% of the final report grade, the Lab 55%, and the Post-Lab 15%.

Poor safety practices can result in loss of up to 50% of the earned grade. The lab report grade will be decreased by up to 20% if apparatus in the lab locker is left in poor condition.

Pre-lab

The pre-lab is to be completed before the laboratory session in which the assignment is to be executed. The handout for the lab will be available on-line at least 2 days in advance, via the lab web site. The presiding TA will grade your pre-lab before you begin the lab exercise. The pre-lab must contain the following sections:

One-column portion

1. *Experiment Motivation and Summary*: An overview of the experiment that you will be doing and why.
2. *Experimental Theory*: A detailed description of the theory behind the major new techniques to be used, as well as the rationale for the steps to be taken in executing the experiment: why each step is taken and what it accomplishes, in theory. You can do this any way you feel is most effective, including drawing cartoons.
3. *Expected Outcomes*: A summary of what you expect to observe (nature of the observation as well as values / trends anticipated if all goes in accordance with plan and theory). Keep in mind both the technology and the particular experiment.
4. *Flow chart of steps and samples*: A road-map of what you will be doing that provides an overview of the steps involved in the day's activities including the intermediates retained vs. discarded, and a table of the samples that will be generated and analyzed.

Two-column portion

5. *Execution Plan*: Working in the left-hand side of the page, write a bullet for each action you will take, in essence creating an instruction list for yourself to follow during the execution itself.

Provide a blank space on the right-hand side for observations, next to each action listed.

Wherever you will need to record a value, use the right-hand side of the page to create a table ready to accept the data you intend to collect.

Similarly, create a right-hand column space wherever you want to insert a photograph or plot.

This exercise of creating spaces for the results you want to collect constitutes the advanced planning that can help prevent disasters when you are writing up the report and realize you never measured a volume or absorbance that you now need in order to calculate some critical value.

Leave plenty of space, skipping lines between steps, in order to allow inclusion of substantive notes on observations or corrections during the execution.

This exercise should result in a fill-in-the-blanks template for success. It will also enable you to make MUCH more efficient use of your time in lab because you will know what you need to do and in what order.

Make note of any reagent that is dangerous and provide a URL or reference to corrective action / antidote.

Lab

You are expected to write observations and measured values in your lab notebook as you conduct the experiment (real-time). This includes changes to your planned protocol, data recorded, observations and any notes. **Nothing** should be written on scratch paper, and nothing should be rewritten. I will be looking in particular for the following:

1. The writing in the right-hand column should confirm or correct the planned execution so it is clear what was actually done.
2. The writing in the right hand column should include all raw data
3. The right-hand column should also include observations of such useful items such as colour changes, volumes, precipitation or viscosity changes, anything that provides information as to the state of the sample and the changes expected or not expected in its condition.

Be **ESPECIALLY** sure to record any accidents or unintended actions, such as addition of a reagent twice, and the actual duration of the time intervals (eg. your execution plan calls for a 30 min. incubation but you actually allowed 33.5 min.)

Post-Lab

Return to one-column format

1. *Data Analysis*: All processed data, including legends for each figure. This will mostly be graphs.
2. Final results obtained.
3. Insights, thoughts and implications.
4. *Questions*: Answer any questions asked within the protocol of the textbook. Be sure to make it clear which questions you are answering.
5. *Conclusions*: All experimental conclusions. These should be numbered. Explain in your notebook how the data support each of your conclusions.

In 10 sentences or less, restate what you did, the conclusions, and the learning outcomes**. Note whether the observed results were consistent with expectations, and provide plausible hypotheses for differences between expectations and observations.

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