Chemistry 126 – Spring 2009
Biophysical and Medicinal Chemistry Laboratory
Monday, Tuesday and Wednesday Sections

I. Instructors

Jamie Keller – Lab Instructor (Monday)
Tomisch Hall 210
PBX: 5357
Email: kellerj
Office hours: Mon 11am-1pm; Thur 4-6pm

John Hofferberth – Lab Instructor (Tuesday)
Tomsich Hall 312
PBX: 5360
Email: hofferberthj
Office hours: Mon 3-5pm; Tues 4-5pm; Fri 3-5pm

Sheryl Hemkin – Lab Instructor (Wednesday)
Tomisch Hall 106
PBX: 5093
Email: hemkins
Office hours: TBA

Carolyn Waggoner – Teaching Lab Coordinator
Tomsich Hall 013
PBX: 5248
Email: waggonerc

II. Materials and Resources

- Chemistry 126 Laboratory Manual (Distributed by instructor during the first week of classes)
- HGS Molecular Structure Model kit C (Same kit as for CHEM 121 and CHEM 122)
- Laboratory notebook (you may continue to use your notebook from CHEM 123 or contact Carolyn Waggoner to purchase a new notebook)

Electronic resources for the course will be placed on the course Moodle page (login at: https://moodle.kenyon.edu/login/index.php)

III. Class Meeting Times and Place

Chemistry 126 will meet in Tomsich Hall 103 once each week for a three-hour laboratory or lecture session. Students finishing labwork before 4pm are expected to remain to analyze data, plot results, or begin post-lab exercises. For labs executed in small groups, this is a particularly good time to discuss your results with other group members.

IV. Laboratory Notebook

You will be required to keep a Laboratory Notebook as a written record of your work in lab. Carbon copies of your laboratory notebook will be collected and will represent a substantial portion of the graded material in this course. It is essential that your laboratory notebook be clearly written and show a logical progression of the experimental procedure, data analysis, results and conclusions of each experiment. A guide to our expectations regarding the format of

your laboratory notebook can be found on the Moodle page for the course. Several of the experiments this semester involve interpretation and/or modeling of spectral data and hard copies of such data will be submitted with the corresponding notebook pages when appropriate. Notebook pages and supporting materials for a given lab are DUE AT THE BEGINNING OF THE NEXT LAB MEETING. A late work penalty will be deduction of 10% of the total point value of lab for each 24 hours the report is late. Work submitted more than 5 days after the due date will not be accepted.

V. Moodle Quizzes

Starting the second week of the course, a Moodle quiz will be administered before the beginning of each new laboratory experiment (multiple-week experiments will only have a quiz before the first week of the lab). The quiz will be available 24 hours before the beginning of your laboratory section and you will be given 30 minutes to complete the quiz. Your quiz grades will be a component of your final grade. The motivation for administering quizzes is to encourage you to be well prepared for your laboratory work. Prelab lectures will be brief to allow time for work in the laboratory and time spent in preparation for each lab will allow you to work efficiently and safely.

VI. Exams

Two exams will be given during the semester on the dates indicated on the Schedule of Experiments. You will be given 90 minutes to complete the midterm exam and 3 hours to complete the final exam.

VII. Course Grade Determination

Your grade will be determined based on your performance on the following aspects of the course.

Laboratory Notebook and Data	40%
Moodle Quizzes (7 quizzes)	10%
Exams (midterm and final)	40%
Class Participation and Lab Skill Proficiency	10%

VIII. Attendance Requirements

You are expected to attend every meeting of your assigned laboratory section. If you are not able to attend a particular laboratory meeting, please contact the instructor by phone or email as soon as you realize you will not be able to attend. Your appearance on the "Excused student list" does not necessarily excuse you from this class. If unusual circumstances require you to attend a different laboratory section, you must have the PRIOR AGREEMENT OF BOTH INSTRUCTORS.

VIII. Academic Honesty

Your attention is called to the College policy on Academic Honesty (see Student Handbook). The Chemistry Department wishes to emphasize the difference between appropriate and inappropriate cooperation. Realizing that a great deal of learning results from student exchange of ideas, we want to encourage such exchanges both in laboratory and outside the laboratory. However, you must clearly understand that materials prepared for submission for grade—notebook pages, lab reports, and annotated spectral data—must be your own work.

IX. Safety

You will receive instruction both at the beginning of the course, and in each prelab lecture on proper safety etiquette in the laboratory. While you will not be graded on safety, you will be expected to conduct yourself in a safe manner at all times in the laboratory. Horse-play, unauthorized experimentation, or other activities deemed unsafe by the instructor will results in your immediate dismissal from the class for the day without the opportunity to make up this time. Questions related to laboratory safety may appear on the quizzes or exams.

Some safety rules you are expected to consider before each laboratory period are:

- Shoes (not sandals) must be work in the lab
- No eating or drinking in the lab
- Protective eyewear (goggles) MUST be worn at all times

X. Co-requisites

Co-requisite for this course is CHEM 124 or 125. However, withdrawing late (WL) from this lab course does not involve also withdrawing from the associated lecture course. They are separate courses with separate grades.

XI. Changes to the syllabus

Any and all parts of this syllabus are subject to change at any time. Notification of any changes will be made in class or via email.

XII. Students With Disabilities

If you have a disability and therefore may have need for some type of accommodation in order to participate fully in this class, please discuss your concerns in private with your instructor and also contact Erin Salva, Coordinator of Disability Services at PBX 5145 or via email at SALVAE.

CHEMISTRY 126: Biophysical/Medicinal Sections
Schedule of Experiments Spring 2008

Week of	Activity	Due Dates
Jan 12	Introduction; Organic Nomenclature	
Jan 19	Infrared Spectroscopy	Organic basics: Notebook pages
Jan 26	NMR Spectroscopy – Part I	IR: Notebook pages and attachments
Feb 2	NMR Spectroscopy – Part II	
Feb 9	Synthesis of Aspirin – Part I	NMR: Notebook pages, annotated NMR spectra, annotated practice spectra
Feb 16	Synthesis of Aspirin – Part II	
Feb 23	Midterm Exam	Aspirin Synthesis: Notebook pages and attachments
Feb 28-Mar 15	Spring Break	
Mar 16	Introduction to GCMS; Organic Unknown : IR, NMR, and GCMS	
Mar 23	Identification of Amino Acids by Chromatography	Organic Unknown: Notebook pages and attachments
Mar 30	Development of a pH Indicator	Amino Acid ID: Notebook pages and report
Apr 6	Development of a pH Indicator	
Apr 13	Development of a pH Indicator	
Apr 20	Enzyme Kinetics: Preparation of Calibration Curve	pH Indicator: Notebook pages and attachments
Apr 27	Enzyme Kinetics: Kinetic Analysis of Alkaline Phosphatase	
Final Exam	May 4th – 8:30 – 11:30 am **or** May 7th – 6:30 – 9:30 pm **or** May 8th – 1:30 – 4:30 pm	Enzyme Kinetics Lab: Notebook pages and attachments (due on arrival to exam)