

## Chemistry 401: Emerging Techniques in Biochemistry

### Course Description

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Recent advances in biotechnology have had a huge impact on the ability to detect and analyze biomolecules with greater accuracy. This *literature-based course* will look at several emerging techniques and instrumentation that are being used to advance research in topics such as protein dynamics, single molecule detection, and metabolic engineering in areas that range from neuroscience to biofuels.

### What to expect

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From the class – You can expect to be immersed in primary literature such that you will become quite familiar with techniques not typically covered in your other science courses. You can also expect to learn to communicate scientifically (both in writing and orally) as well as how to analyze the literature critically.

From the instructor – to arrive to class early and prepared for discussion, return graded and assessed items in a timely manner, reply to emails and phone messages within 36 hours (however, I will not reply to either after 9 pm), treat each person with respect, and listen attentively to student discussions.

Of the students – to be on time (when arriving to class, turning in assignments, etc.), be prepared for class (to have read the article(s) and answered assigned guided questions), respect others, and participate in discussions as both an active listener and as a speaker.

### Instructor and Course Resources

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Instructor:	Prof. Kerry Rouhier (“Roo-yer”)
Email:	rouhierk@kenyon.edu
Office:	212 Tomisch Hall
Office Hours:	TBA
Class location:	Tomsich 206
Class time:	9:40-11:00 AM Tuesday, Thursday
Text:	Citations for class readings will be handed out in class or available through the course website.
Website:	<i>moodle.kenyon.edu</i>

## Course Policies

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Grade – The following distribution will be used in determining your final grade.

Response Papers	35%
Oral Presentations	30%
Participation	15%
Final Exam	20%

Attendance – Since this is a seminar course, your presence and participation in class discussions is necessary. If you are unable to attend a class, please notify the instructor by phone or email as soon as possible. More than three unexcused absences will result in a grade reduction by 1/3 (from B+ to B).

Accommodations – In accord with Section 504 of the Rehabilitation Act (1973) & ADA (1990): If your disability requires accommodation to fully participate in this class, notify the instructor and Erin Salva, Coordinator of Disability Services (PBX 5453, [salvae@kenyon.edu](mailto:salvae@kenyon.edu)) as soon as possible. All information and documentation of disability is confidential. No accommodations of any kind will be given in this course without notification from the Coordinator of Disability Service at least one week prior to the special accommodations.

Academic Honesty: Academic honesty is expected in all aspects of this course. Please refer to <http://www.kenyon.edu/x11747.xml> for a detailed description of the policies on academic honesty. A violation of academic honesty is among the most serious matters in an academic community.

Technology use – You may use laptops or similar devices during class. Please refrain from using it to email, instant message, play games, or any other activity unrelated to class. Cell phones are not to be used during class. Please have them turned off or set to silent.

## Course Details

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Topics to be covered – metallomics, protein structure techniques, applications of protein engineering, applications of imaging mass spec, detection of counterfeit drugs, and advances in nanomedicine. Approximately three classes will spent on any one topic.

Response Papers – Students will be asked to turn in response papers for the topics or articles covered in class. This may be in the form of responses to guided questions, short one-page papers, or other such writing responses. Response papers will be due on the day the topic or article is covered in class.

Oral Presentations – **Pairs of students** will be giving oral presentations on papers related to a topic selected by the class during the semester. With guidance and approval from the instructor, students will select articles to present to the class and lead the discussions. Each student will present three times. Students will complete a self-evaluation in addition to being evaluated by the instructor.

Final exam – December 18 at 8:30 AM and you will have two hours to complete the final.