Department of Chemistry
University of Massachusetts Amherst
Fall 2011 Chemistry 891G

# Graduate Core Course I: Physical/Organic Chemistry


*Instructors*:

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|---|---|---|---|
| Professor S. Auerbach | GSMN 222 | 545-1240 | auerbach@chem.umass.edu |
| Professor S. Thayumanavan | LGRT 1538 | 545-1313 | thai@chem.umass.edu |

*Teaching Assistants*:

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| Angela Migues | GSMN 228 | 545-0732 | amigues@chem.umass.edu |
| Jack Fuller | LGRT 1606 | 545-2056 | jfuller@chem.umass.edu |


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| *Class Meetings*: | Lecture | MWF | 10:10-11:00am / LGRT 204 | |
| | Recitation | Tu | 11:15am-12:30pm / LGRT 204 | |
| *Office Hours*: | Scott | M/Th | 12:30-1:30pm | GSMN 222 |
| | Thai | By appt | | LGRT 1538 |
| | Angela | M/W | 1:30-2:30pm | GSMN 228 |
| | Jack | Tu/F | 1.30-2.30pm | LGRT 1606 |

*Website*: http://samson.chem.umass.edu/core/

*Topics/Themes*:

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| 1. Click Chemistry: | Bonding and Orbitals |
| 2. Sensing: | Spectroscopy and Fluorescence |
| 3. Proton Exchange Membranes: | Thermodynamics and Kinetics |
| 4. Drug Design: | Stereochemistry |
| 5. Science Ethics | |
| 6. Proposal Writing | |

*Requirements* (all dates subject to change for the benefit of class as a whole):

1. Class participation (5 pts).
2. Periodic problem sets (10 pts).
3. Two exams (15 pts each) during Recitation sections, tentative dates: 10/4, 11/22. There will be no final exam.
4. Three team projects (15 pts, 15 pts, 25 pts final project) on:
    a. Computational chemistry applied to CONJUGATION or STRAIN (worksheet due 9/16; report due 9/30).
    b. Phys/Organic chem research article oral review (titles due 9/26, reviews due 10/17-18).
    c. Research proposal in *Sensors* or *Sustainability* (abstracts due 10/31; written proposal due 12/2; oral proposal presentations begin 12/6).

*Teams*:
We will split you up into teams of 4-5, seeking balance in your teams considering gender, ethnicity, and target focus areas in Chemistry. You may change teams only if absolutely necessary, and only with instructor consent.

*General*:
The best way to keep up is to ask questions when confused, either in class or during office hours. Don't let yourself get behind by more than one lecture, ever! This class runs on the honor system. Cheating in any form will not be tolerated, and will be grounds for failure of the class, and possible expulsion from the Ph.D. program.