

Research Literature in Structural Biology (MCB 3841W-004)

Fall 2009

Credit hours: 3

Classes: Tu, Th 3:30-4:45 PM in Biology/Physics (BSP) 201

<u>Month</u>	<u>Date</u>	<u>Class</u>	
Sep	1 (Tu)	1 Introduction class organization	
	3 (Th)	2 Topic 1 – protein folding [1]	
	8 (Tu)	3 Topic 1 – protein folding [2]	
	10 (Th)	4 Topic 2 – protein misfolding [3]	
	15 (Tu)	5 Topic 2 – protein misfolding	
	17 (Th)	6 Protein folding & misfolding leftovers	
	22 (Tu)	7 Techniques in Structural Biology	
	24 (Th)	8 Hypothesis meetings I	
	29 (Tu)	9 Hypothesis meetings II	
Oct	1 (Th)	10 How to write grants (also Courtenay Lewis from W-center)	
	6 (Tu)	11 Databases Abstract & specific aims due (2 pg)	
	8 (Th)	12 How to write papers	
	13 (Tu)	13 Liz Rhoades - Single molecule fluorescence studies of protein structure and function(4 pm, BP 130)	
	15 (Th)	14 Carolyn Mills from UConn Library - Literature searches (BSP 201, regular time & place)	
	20 (Tu)	15 David Lanar – The development of a malaria vaccine. (4 pm, BP 130)	
	22 (Th)	16 No class – work on proposals	
	27 (Tu)	17 Roberto Kolter – Cell-cell signaling during biofilm development. (4 pm, BP 130) Proposal due Oct 27 (7 pg + 2 pg revised abst + Spec. aims)	
	29 (Th)	18 How to review	
	Nov	3 (Tu)	19 How to respond to reviewer’s criticisms
5 (Th)		20 Review panel 1 Reviews due for panel 1 Vitale, Schmitt, O’Neill, Louis, Carrington, Grabowski, Durrani (these students come to class Nov 5th) (Group 1 proposals reviewed: Zia, Killcollins, Siv, Henderson, Lee, Gibson, Fernando)	
10 (Tu)		21 Review panel 2 Reviews due for panel 2 Zia, Killcollins, Siv, Henderson, Lee, Gibson, Fernando (these students come to class Nov 10th) (Group 2 proposals reviewed: Vitale, Schmitt, O’Neill, Louis, Carrington, Grabowski, Durrani)	
12 (Th)		22 Individual meetings to discuss reviews Revised reviews due for panel 1	
17 (Tu)		23 Mock Interviews (Siv, Zia, Lee) Revised reviews due for panel 2	
19 (Th)		24 Mock Interviews (Fernando, Schmitt, Vitale)	
NOTE : November 23-28 T’giving recess			
Dec		1 (Tu)	25 Jim Hogle – Structural approach to characterizing cell entry by poliovirus. (4 pm, BP 130)
		3 (Th)	26 Mock Interviews (Carrington, Gibson, Killcollins)
		8 (Tu)	27 Mock Interviews (Henderson, Grabowski, O’Neill)
	10(Th)	28 Mock Interviews (Durrani, Louis) Revised proposal due Dec 10 (9 pg revised proposal+1 pg response to reviewers)	

Assigned reading:

- [1] Echenique (2007) Contemp. Phys. 48: 81-108
- [2] Anfinsen (1972) Nobel Lecture Chemistry 1972: 55-71
- [3] Chiti & Dobson (2006) Annu. Rev. Biochem. 75: 333-366
- [4] White & Wimley (1999) Annu. Rev. Biophys. Biomol. Struct. 28: 319-365
- [5] Borgia, Williams, & Clarke (2008) Annu. Rev. Biochem. 77: 101-125

Class materials (syllabus & lecture notes) will be put on the HuskyCT site for MCB3841W-004

Proposal Format:

Abstract – summary of the whole proposal, what you seek to accomplish and why it's important (1 pg)

Specific Aims – Summary of what specific goals are. There should be 2-4 specific aims all on one page. Focus on the big picture of what project seeks to accomplish not technical minutia. This is the most important part of the proposal! (1 pg)

Background – what's known about the subject (1 pg)

Preliminary results – use results from literature (3 pg)

Research design – For each specific aim, break up into “rationale”, “experimental design”, “interpretation of results” (3 pg)

The proposal cannot exceed 7 page limit (excluding references) or it will be returned!

The manuscript should be double-spaced and use a font no smaller than 10 point. Use 0.5 inch (1.27 cm) margins all around! You can include 2-3 figures in the proposal if you want to or need to, as long as the whole proposal (excluding references) is 7 pages.

Mock Study Section Format:

- At each session we will review 7 proposals.
- Everyone shows up except the 7 students who's proposal are reviewed.
- 4 students will each be assigned as primary, secondary reviewers or readers. Primary and secondary reviewers have to write a 1 pg review with a detailed summary and criticisms. Readers can skim through proposal and write a short (1/2 pg review)
- All 7 students will participate in the discussion of the proposal and will assign a score for the proposal within the range specified by the 5 primary reviewers and readers.

Mock Job Interview:

- Three students per session
- Each student does a 20 minute presentation of their proposal (PowerPoint preferred)
- There will be 5 minutes set aside for questions from the audience after each presentation
- Make it as “real” as possible: dress up, come prepared, make a presentation that “sells” your proposal

Grading:

Specific Aims & Abstract	= 10 pts
*Seminar Reviews	= 10 pts
Proposal	= 20 pts
Proposal Reviews & Mock Study Section Discussion	= 10 pts
Final revised proposal	= 30 pts
Mock Job Interview Presentations	= 20 pts

Total	= 100 pts

*Seminar Reviews are due within 1 week of the seminar (E-mail okay)

3 pt. will be deducted from your grade for every day past the due date (no exceptions).

Class participation will be considered and help for borderline grades!

Grading is on a scale from 0 to 100 using the following scale:

92-100 = A	72-77 = C
90-91 = A-	70-71 = C-
88-89 = B+	68-69 = D+
82-87 = B	62-67 = D
80-81 = B-	60-61 = D-
78-79 = C+	>60 = F

Plagiarism Policy

Plagiarism will not be tolerated!!! Copying from a famous source (e.g. Nobel Prize winner) is not being deferential and respectful it is intellectual theft! If you use other people's ideas make sure you describe the concepts IN YOUR OWN WORDS, and that you properly cite your sources! Please don't insult your professor by assuming that they don't know enough to be able to spot plagiarism! If caught plagiarizing, you will fail the class and be subject to disciplinary action that could include dismissal from the university. Please see the definitions below, and if you have any further questions ask your instructor!

"Plagiarism is using others' ideas and words without clearly acknowledging the source of that information."

<http://www.lib.uconn.edu/instruction/tutorials/LILT/htmls/fairuse.html>

Instructor:

Andrei Alexandrescu

Associate Professor, Molecular & Cell Biology
University of Connecticut, BSP 209
91 North Eagleville Road, Unit 3125
Storrs, CT 06269-3125
Tel: (860) 486-4414
Fax: (860) 486-4331

E-mail: andrei@uconn.edu

web: <http://www.mcb.uconn.edu/fac/fac/alexandr.htm>

Office hours:

Tu, Th 5-6 pm (after class)

Guidelines from UConn's General Education Guidelines (<http://geoc.uconn.edu/geocguidelines.htm>)

W guidelines

In a writing-intensive (W) course, writing should be integral to the learning goals and subject matter of the course. In the language of UConn's General Education Guidelines, "Students should not write simply to be evaluated; they should learn how writing can ground, extend, deepen, and even enable their learning of course material. In addition then to general formal questions concerning strategies for developing ideas, clarity of organization, and effectiveness of expression--and discipline specific format, evidentiary, and stylistic norms--the W requirement should lead students to understand the relationship between their own thinking and writing in a way that will help them continue to develop throughout their lives and careers after graduation."

According to the policies of the General Education Oversight Committee and the Faculty Senate, those teaching W courses must:

- Assign 15 pages of edited written work
- Not only assign writing, but teach it
- Build in a process for revision
- Inform students that in order to pass the course, they must pass the writing component. (This should be stated on the syllabus)

An excerpt from an April 14, 2005 GEOC memo expands on those requirements:

"The key distinction between a W and non-W course is pedagogical, not whether writing is assigned or not. Writing, of course, may be, and in fact, should be assigned in many courses, with or without the W designation. What distinguishes a W course from any other course is that students must be provided explicit writing instruction and consistent faculty feedback to foster revision, and W courses require a minimum of fifteen, revised and edited pages of writing. It is likely that some courses may require fifteen or more pages of writing in a semester without offering instruction and structured opportunities for revision, but a course that did so would not qualify as a W course.

Because W courses require explicit instruction and consistent feedback for revision, it is not possible to register some students for W credit and others not for W credit in the same course. If the teaching practices in the course conform to the requirements for a W course, then the enrollment limits must conform to the university mandate (nineteen students per section) to enable effective writing instruction."

For the full document, please see follow this link: <http://geoc.uconn.edu/WMemo41405.htm>

For the original W policy document, see the following PDF: <http://tricampuswriting.uconn.edu/W Course Guidelines.pdf>

For other GEOC documents, please go to <http://geoc.uconn.edu/>

The **General Education Oversight Committee (GEOC)** sets W course policy, approves new W course proposals or modifications to existing W courses for intersession, and oversees assessment and curricular matters related to general education, including W courses.

The **University Writing Center** offers support to student writers, mostly through individual tutorials, and consults with faculty and graduate students as they teach writing in their home disciplines. The University Writing Center works in concert with GEOC and academic departments, but it holds none of their authority over either curriculum or faculty.

FAQs about W Course Teaching

Is the purpose of my W course to teach students to write in my discipline or teach them to write more generally? Both, but the emphasis is on writing in your own discipline.

Are guidelines for W courses different at regional campuses? No. W courses, regardless of location or level, should meet the same four criteria. For those course requirements, please see the University Writing Center website. As with Storrs, most regional campuses have writing specialists to assist faculty and writing centers that offer tutoring.

Can I enroll beyond the 19 cap by giving out permission numbers? Please don't. Enrolling beyond 19 requires approval from the General Education Oversight Committee.

Does any kind of writing count toward the 15 page minimum? No. Only writing that moves through a revision process counts. This does not mean that *all* writing in a W course must be revised—after all, many kinds of informal, exploratory, and one-shot writing can be quite valuable for student learning—but instead that *at least* 15 pages of formal, revised text must be assigned. Collaboratively composed texts can count as part of those 15-pages.

Does the W requirement dictate that any specific genres must be assigned? No. Those will depend on your discipline and course. Some W courses center on one 20-page research project (usually composed in stages), while others include three or four shorter essays; some feature specialized genres (policy briefs, lab reports, proposals, abstracts, case study analyses, etc.), while others incorporate a mix of genres.

Do I need to assign a research paper? No, but many W courses hinge on research and address how to evaluate, incorporate, and document sources. When assigning research projects, many faculty opt to divide them into smaller, progressive components (proposal, annotated bibliography or literature review, section drafts, whole draft), each of which occasions response.

Should I require that students buy a separate book on writing? That is up to you. If looking for advice on writing handbooks, discipline-specific writing guides, or online resources, the University Writing Center can make suggestions and get you examination copies. We can also help you create a print or online writing guide customized to your course.

Exactly how much writing instruction do I need to include, and how can I balance it with other course content? This will vary and is left to the wisdom of each instructor. Note that “writing instruction” means more than imparting rules for grammar, usage, and documentation; it also involves teaching students to explore and shape their ideas, analyze their audiences, frame arguments, gather evidence effectively and ethically, understand genre conventions, and attend to style. Many faculty reserve writing instruction for their comments on drafts or their individual conferences with students. Many build it into lectures and discussions, showcase models of successful and unsuccessful writing, introduce mini-lessons on key stylistic points, and hold writing workshops on days when drafts are due. Writing instruction should complement rather than compete with course content: learning to write in a discipline means learning to think, argue, research and communicate with the community of scholars in a given field.

Can a final writing project substitute for a final exam? Maybe. The general rule is that 100 and 200 level courses require final exams, but exceptions are possible. Check with your department in advance of the semester to see if a final exam exemption has been approved for the course; the department can also request one from the dean. For courses numbered 300 and above, the instructor can make such decisions without consulting the department.

What kinds of revision should be built into my W course? You choose. It usually entails commenting on drafts or conferencing with students in advance of their final submission of papers. Other options include having students critique each others' drafts (be sure to structure and supervise such peer review), holding small group tutorials, or bringing drafts before the whole class for review.

Should I grade drafts? That is your choice. Some opt to grade them; some deliver a tentative grade (“If this draft were your final version, it would merit a D because...”); some hold off on grading to encourage exploratory thinking and risk-taking. In any case, when responding to drafts your focus should be on *formative*

comments: that is, posing questions, affirming what is working, pointing out shortfalls, and making suggestions so that students can *put your comments to use as they revise*.

Are there UConn-wide standards for evaluating student writing? No. You set the criteria appropriate for your course and discipline. If interested, you can find several discipline-specific sample grading rubrics on the University Writing Center website. We recommend that you distribute your expectations for writing and your grading policy early in the semester.

How should I respond to sentence-level errors in student writing? Set high standards for editing and stick to them, but also help students meet those high standards. Error-ridden *final submissions* of assignments should not pass. We might expect more frequent sentence-level problems in drafts, because there writers tend to focus more on finding their purpose, shaping their ideas and structure, and gathering evidence. Some faculty address sentence-level concerns by working with students individually; some introduce occasional in-class lessons on key usage, style or documentation matters. Another option is referring (but not requiring) students to make appointments with the Writing Center, where we often work toward helping students edit their own work. As a general rule, *avoid line editing an entire student draft*, as this is often counter-productive because it means that you are editing *for* the student. While you should respond throughout a draft to a student's ideas, structure, and voice, better to line edit no more than the first 20% of the text; for the latter 80%, jot a check in the margin for each grammatical or documentation error. This alerts students to the frequency of their surface errors but allows you to engage with the intellectual and structural substance of the text.

How do I deal with potential cases of plagiarism? When planning your course, consider ways to promote academic integrity: discuss in class the ethical standards and documentation conventions for your discipline; on your syllabus include the plagiarism policy and your expectations for intellectual work; create detailed assignments tailored to your course; require students to complete the on-line plagiarism module in WebCT; alert students to potential problems in early drafts; and never accept final papers for which you haven't seen the required drafts. If you discover plagiarism, please inform your home department and the Dean of Student's Office; also see the Student Code of Conduct(www.dosa.uconn.edu).

Shouldn't my students have learned to write and document sources in Freshman English? In Freshman English students grapple with complex readings from the humanities and social sciences; they practice interpretation, argument, and research; and they write several essays, some of which incorporate sources. They write and revise at least 30 pages of text. Still, because academic writing is a deeply contextual activity, no single course can prepare students for the range of writing they encounter across a college curriculum, nor can any single course inoculate students from making sentence-level mistakes in other contexts. When students receive consistent and rigorous response to their writing across courses and over a number of years, they develop into skilled and versatile writers.

Where can I get more information about the W requirement or get assistance with my course planning? The General Education Oversight Committee sets W policy and oversees W courses. The University Writing Center offers faculty and teaching assistants workshops, online resources, and individual consultations. We also make individualized tutorials in writing available to all UConn students.

Syllabus Text Add-Ins For W Courses: [Failure Clause](#), [Writing Center Description](#), [Academic Integrity](#), [Students With Disabilities](#)

Please Include the Following Statement on All W Course Syllabi According to university-wide policies for W courses, you cannot pass this course unless you receive a passing grade for its writing components.

Optional Add-Ins for Your W Course Syllabus ***Please note that the following are not official UConn statements, but feel free to use or adapt them as you wish***

University Writing Center All UConn students are invited to visit the University Writing Center for

students from across the humanities, social sciences, and sciences. They work with writers at any stage of the writing process, from exploring ideas to polishing final drafts. Their first priority is guiding each student's revisions, so they frequently provide a sounding board for a writer's ideas, arguments, analytical moves, and uses of evidence. They can also work with you on sentence-level concerns, but please note that they will not proofread for you; instead, they will help you become a better editor of your own work. You should come with a copy of the assignment you are working on, a current draft (or notes if you are not yet at the draft stage), and ideas about what you want out of a session. Tutorials run 45 minutes and are free. You can drop in or make an appointment. For hours, locations, and more information, please go to writingcenter.uconn.edu.

Academic Integrity In this course we aim to conduct ourselves as a community of scholars, recognizing that academic study is both an intellectual and ethical enterprise. You are encouraged to build on the ideas and texts of others; that is a vital part of academic life. You are also obligated to document every occasion when you use another's ideas, language, or syntax. You are encouraged to study together, discuss readings outside of class, share your drafts during peer review and outside of class, and go to the Writing Center with your drafts. In this course, those activities are well within the bounds of academic honesty. However, when you *use* another's ideas or language—whether through direct quotation, summary, or paraphrase—you must formally acknowledge that debt by signaling it with a standard form of academic citation. Even one occasion of academic dishonesty, large or small, on *any* assignment, large or small, will result in failure for the entire course and referral to Student Judicial Affairs. For University policies on academic honesty please see UConn's *Responsibilities of Community Life: The Student Code*: http://www.dosa.uconn.edu/student_code.html. Please note that ignorance of prevailing academic conventions or of UConn's policies never excuses a violation. You are encouraged to come see me if you have questions about when and how to cite; you would also be wise to consult a writing handbook.

Students With Disabilities Students who think that they may need accommodations because of a disability are encouraged to meet with me privately early in the semester. Students should also contact the Center for Students with Disabilities as soon as possible to verify their eligibility for reasonable accommodations. For more information, please go to <http://www.csd.uconn.edu/>.

We also recommend that you include syllabus language that explains your expectations for revision, your late draft and paper policy, and your grading criteria.