

## Unedited, Anonymous Student Comments About CBIO101, Spring 2008-2009

First of all this class is amazing. It was my favorite class at Stanford and I have learned more than in any other class. I thought that the lectures were all very interesting and I liked when Prof. Lipsick would tell us what part of the lecture the reading was going to be on so I could review it before talking reading the section picture. Section was also very interesting. I think that it would be helpful in section to tie in some of the key techniques especially because that was usually the focus of the exam. Matt did this very well especially after we gave him that feedback and that was very helpful for the exam.

I really enjoyed this class! I feel like I have a very solid foundation in cancer biology now. Austin was a really great section leader.

Incorporating more review of the lectures during section would be helpful. Having weekly problem sets/ homeworks may be useful as well. An alternate of this could be assigning experiment based questions to think of before section, when it can be discussed. I wanted to thank Prof. Lipsick and the TAs, especially Molly, for making themselves available and putting effort into making sure we understood the material. I also appreciated the chronology of the lectures. It was well organized in terms of the pre-understanding we brought into a lecture from previous ones.

It was amazing- Thanks so much Professor Lipsick!

Overall, I was very satisfied with cbio101. True, there were some issues with where the lecture room was, but I'm pretty sure that was beyond the control of the TA's and the instructor. I especially enjoyed the comments on the lecture slide powerpoints that were provided on coursework. I was able to focus more on listening to the lectures rather than scramble to take notes in fear of missing some crucial information. I was somewhat frustrated later in the quarter with the course material. I felt that in the first half of the quarter, we learned many useful concepts and experiments. In the second half of the quarter, I thought that many lectures had an overabundance of data. While it is nice to see where the points being covered are coming from, I don't think it's necessary to show every single gel and/or fluorescence from a set of experiments.

I think that apart from the paper discussion sections, a short section a week/every other week going over the lecture material might be helpful too (or maybe just incorporate this into paper discussion). It could be optional. Some students that have less background aren't sure what to take away from lecture or what the big ideas are and don't always know what questions to ask (which is what office hours are for), so it might be helpful for them in terms of thinking along experimental lines (what questions to ask when investigating interesting genes, once you know this what's the next step, etc.).

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I really enjoyed the course. Liz was without a doubt the best TA I have ever had at Stanford, and Professor Lipsick did a good job both teaching the subject and teaching it in a manner that dealt with a sensitive topic in a healthy way. Humor is always appreciated, and it was in the right amount. I would suggest perhaps slightly shorter midterms/finals, or maybe a longer period over which we could do them, in order to compensate for other exams that some people have and some do not. I would also suggest emphasizing that the class is on the BIOLOGY of cancer. some people went into it thinking they were going to get more of a humbio approach of things, which it definitely was not. But I am a biology major, and i loved it. Thanks!

I really enjoyed the lectures -- they were informative, concise and interesting. I was more interested in the latter half of the course -- the current theories, developments, treatments, etc. about cancer and would have loved to learn more about the different types of cancers and research. However, I really enjoyed the course and learned a lot. Thanks!

First, the exams were really long. I had enough time to work on the final exam because I didn't have other classes, but with the midterm... between a full course load and TA responsibilities for the chemistry department, I'm busy every day 9-6... three days only to complete the exam was a nightmare. I had to pull a bunch of all-nighters. Giving us even one more day extra to work on the midterm would have made my life SO, SO, SOOO much less painful for those days. Second, I loved the exams! They were long, but the questions were fantastic! I've never enjoyed myself so much taking tests. Seriously, each question was like a happy little puzzle. Third, Molly (my TA) was PHENOMENAL. I wouldn't have learned half as much as I did without her guidance in section. Not only was she great about letting us ask questions, solve them out loud, collaborate with other students, teach other students, learn from other students, but she had a way of revealing to us exactly how to look for the most important things in a figure... pointing out the crucial details that none of us would have thought of without her help. I decided to take a year and do cancer research before med school, and it's because of Molly and this class. Thank you so much for all your hard work!

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This was a very good class! I enjoyed Professor Lipsick greatly as a lecturer and person and respected him tremendously as a scientist and leader in the field. Concerning the lectures, I thought that the lectures were very informative, but with a bit too much information packed in. I feel like maybe it would've been better as a 5 unit class that tested more of the material. The course relied on the TAs too much, and although my section was really good, I feel like this might've been a unique experience. One major suggestion would be to change how the exams are done. First, students should be allowed to ask clarification questions for the exams because truthfully speaking, some questions were not very well-written. Second, my understanding is that some sections had more preparation for the exams than others, since some sections focused more heavily on techniques than did others that just focused on the paper. Third, the exams also did not really test my knowledge of cancer biology. Again, to be completely candid and hopefully helpful, I didn't really have to review any of the pathways during the test, since the exams tested on techniques only, and having experience with most of the techniques covered, I just had to rely on my prior knowledge of molecular biology. Therefore, I think the exam should have some questions that directly test the material covered during the lectures, while keeping the majority of the test centered on techniques. Fourth, the word limit to the test was meant to normalize the responses for the questions, but for me at least, it ended up being extremely frustrating. Not only should there have been more space on the exam itself allotted for writing (I was totally screwed on this for the first test and typed up my answers for the final), but different TAs had different conceptions of how many words were required to answer a question. Some answers only required a sentence or two for one point; other answers required a paragraph for one point. Also, some questions required answers that were just too long for the space limit. For instance, on the midterm a protein wasn't specified as a tumor suppressor or an oncogene, and to do experiments without knowing that information caused me to write two separate sets of experiments with different assumptions about that protein. Consequently, I ran out of space and was marked down because I couldn't explain my reasoning entirely. My answer would've been fully explained in the allotted space limit had I made an assumption that the protein was either a tumor suppressor or oncogene, but I didn't make this assumption because ironically, I wanted to be thorough and was penalized. My understanding was that the TA writing this question had not realized the question was unclear until after the test had been sent out--a problem that could easily be remedied if we had the chance to ask clarification questions. Lastly, I thought the way exams were graded was not exactly standardized. I think that some questions were graded unfairly (and maybe this sounds a bit bitter but I'm really not), not only due to misunderstanding of what was being asked, but because of "double jeopardy" on a few missed points and the TAs misunderstanding what I meant for my answers. There were a lot of points that I would've contested had there been a chance for a regrade, and I even talked with my TA extensively about it. But I don't want to make it sound like this was a bad course--it was a great course, certainly one of the top three science classes I took at Stanford. There was just a couple of issues I had with the tests, but everything else was well done and presented perfectly.

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Excellent course-- as a senior, I can honestly say this was one of the very best classes I've taken at Stanford. I highly recommend it to anyone who wants a challenge and likes to think scientifically. Professor Lipsick is an awesome scientist and an incredible lecturer. I loved how he presented the scientific culture of the past 30 decades of cancer research; almost like an anthropology of science in a way! The course logistics ran very smoothly and the readings were pretty awesome. I especially liked the optional readings posted online, which were very well selected and helpful. I came into this class knowing nothing about cancer-- I've learned so much and gained critical analysis skills with which to approach the primary literature. Thank you so much! I'll always remember this course and the principles you've taught me. Keep it up for future generations of scientists, policy makers, and physicians! No one is untouched by cancer and this course is a powerful tool for all students to approach understanding cancer.

Course was great.

Perhaps streamlining the readings for lecture would be helpful. I found that there was just too much information to remember when we are asked to read 2 entire chapters for 1 lecture (which has a lot of slides of its own as it is). Otherwise, very thorough look into cancer--exactly what I wanted! Dr. Lipsick is eloquent and friendly as well.

I LOVED how the lectures, discussions, and tests were based up on experimental design and techniques. It made everything very applicable and therefore more interesting. Even though I found out that cancer (being mostly studied at the level of genes and genetics) may not be the coolest subject to me, I really enjoyed the class because we learned so many techniques. The toughest part of the class for me was the 90-minute lectures. I was so grateful for the 5-minute break in the middle, but it's still hard to stay engaged for 90 minutes in a lecture. Also, Professor Lipsick talked very fast and covered lots of material, making it even more difficult to stay fully engaged for the whole 90 minutes. It's just impossible to follow along critically at the pace material is presented, and I think that's why all of Professor Lipsick's questions in class were met with blank stares. If he talked a little slower, maybe we could follow along better instead of frantically making notes on our slides. Another alternative is to introduce questions before asking them; that way, we know a question is coming, and we'll (hopefully) pay more attention. So in summary, here are my suggestions: 1. Shorter lectures; 2. Talk more slowly; 3. Give students a heads up if a question is about to be asked during lecture. Thanks for an awesome class!!

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A wonderful class for those interested or already involved in research. It definitely reinforced my skills in thinking critically, asking the right experimental questions and designing ways to answer them. I like having a 1.5 hour discussion section because everyone gets the chance to ask their questions and help each other. My minor complaint is having to buy the textbook - it's unnecessary but listed as required. It's still a good read, so I'm not too bummed out about it. I like Dr Lipsick's style of teaching, injecting humor and inside stories and pop culture into his lectures. He's also very approachable. Luis is wonderful as a TA. Suggestions for improvement: Incorporate some sort of problem set that can test the students' paper reading skills, eg. find a paper on lung carcinoma and summarize the techniques they used. While I really appreciate Dr Lipsick and the TA's time and efforts, I think having the toolbox ready for us is almost too easy. Don't get me wrong, I'm not saying I'm too good for this class, there are lots of others that scored better than I did. But doing these exercises yourself can improve those skills tremendously and will be really useful in more advanced classes.

I was disappointed that the tests did not seem to evaluate how much of the lecture material we had actually learned, but rather our knowledge of more cursory techniques. It makes succeeding nominally in the class difficult for someone without a very strong background in biology and genetics.

It would be helpful to have weekly problem sets to go over experimental procedures and key concepts that students should expect on the exams. The problem sets wouldn't have to be mandatory or graded, but I think they'd be more helpful than trying to tackle past exams as a study tool. It's hard to sort out what we should know on a weekly basis by looking at past exams since most problems require a comprehensive understanding of course material that we don't have until the exam itself.

I thought the professor and all the TAs were wonderful. They were all very knowledgeable, friendly, and approachable. I loved discussion section because it was enlightening to hear what other inexperienced biologists like me were thinking about the paper at hand. The class was composed of students of all levels, and I think sometimes the techniques were passed over too quickly for us undergrads who don't have as much lab experience. I struggled in the class because it was hard to keep on schedule with the huge amount of additional and required readings. If I had studied throughout the course, I would have felt more comfortable taking the midterm and the final. However, it turned out that I learned the most by reviewing for and doing the tests themselves. Perhaps we could have optional problem sets due every week with similar problems, so that some of us with busy schedules could actually practice for the tests instead of having to cram in everything in the four-day window that we had to take the tests. Overall, I loved the class and learned a lot. Thanks so much!!!

I really enjoyed this class, and I feel I learned so much. Definitely one of the most interesting and rewarding classes I've taken at Stanford. My only suggestion would be to try and incorporate more recent papers/information into the lectures and into the readings for section.

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I would like to see more integration of the lecture materials with discussion sections. It was not always clear how the two related. Also, I would've appreciated more guidance in the beginning of lab techniques.

I thought this course was great. One suggestion I would have would be to form discussion sections based on the background of the students. As a senior, I had already taken several classes with similar structures (i.e. discussion sections where we discussed research papers) and found the sections to be too elementary. It would have been nice to have a discussion section for students who were experienced in reading papers and could skip all the methods/explanations that are necessary for students who have not analyzed primary literature before. Thanks for a great quarter!

I found a disconnect between the lectures and the sections. This made it more difficult to retain the information learned from class. But I found class difficult because alot of the times it was just an overload of information. Sometimes I felt that he showed 'proof' like gels but went over them too quickly so I got lost early on in lectures. I guess I was just so used to having lectures reinforced by a discussion section focused on what we learned in lecture, it was rather disorienting to have 2 lectures with a section focused on a totally different aspect of cancer biology (the lab part). I thought this class was very tough. I thought the information taught was interesting, but did not have time to go over all of it. So I felt like I left the class learning less than I would have liked to. Suggestions: #1 Create a bigger connection between section and lectures.

Could have been a better class in my opinion.