Biol 213 Genetics: Exit Questionnaire (Fall 1999)

1a Order
A.VAdv: 12 B.Adv: 46 C.Neutral: 12 D.Disadv: 4 E.VDisadv: 1
2a Topics-good
A.ProteinStruct: 12 B.DNAStruct: 11 C.DNAReplic: 18 D.GenCode: 27 E.Mendelian: 28
F.Probability: 13 G.Chi-Sq: 6 H.Pedigrees: 30
I.NonMendel: 16 J.Linkage: 27 K.Lac: 29 L.EukGen: 11 M.FlyDev: 8
N.no answer: 12 O.Mutation: 19 P.Cancer: 50
2b Topics-necessary
A.ProteinStruct: 9 B.DNAStruct: 10 C.DNAReplic: 9 D.GenCode: 10 E.Mendelian: 4
F.Probability: 23 G.Chi-Sq: 26 H.Pedigrees: 15
I.NonMendel: 4 J.Linkage: 15 K.Lac: 23 L.EukGen: 11 M.FlyDev: 11
N.no answer: 34 O.Mutation: 10 P.Cancer: 5
2c Topics-bad
A.ProteinStruct: 5 B.DNAStruct: 2 C.DNAReplic: 1 D.GenCode: 2 E.Mendelian: 1
F.Probability: 5 G.Chi-Sq: 15 H.Pedigrees: 2
I.NonMendel: 2 J.Linkage: 1 K.Lac: 7 L.EukGen: 6 M.FlyDev: 29
N.no answer: 50 O.P.Mutation: 4 P.Cancer: 1
3a Workload
A.Excessive: 27 B.BitHeavy: 37 C.Neutral: 6 D.: 0 E.: 0
3b Workload-WhyTooMuch
A.concepts: 21 B.problems: 28 C.other: 10 D.NA: 5
4a Textbook
A.VAdv: 6 B.Adv: 38 C.Neutral: 25 D.Disadv: 5 E.VDisadv: 1
5a WebNotes
A.VAdv: 38 B.Adv: 29 C.Neutral: 5 D.Disadv: 1 E.: 0
6a Home page
A.VMuch: 22 B.Yes: 39 C.Neutral: 11 D.No: 3 E.: 0
6b Course-at-glance
A.Often: 12 B.>1: 36 C.>1: 12 D.No visit: 11 E.Other: 1
6c FAQ
A.Often: 3 B.>1: 29 C.>1: 16 D.No visit: 27 E.: 0
6d BullBoard
A.Often: 9 B.>1: 37 C.>1: 15 D.No visit: 12 E.Other: 2
6e Links
A.Often: 2 B.>1: 11 C.>1: 15 D.No visit: 46 E.Other: 1
6f Poetry
A.: 0 B.>1: 13 C.>1: 21 D.No visit: 38 E.Other: 3
7a WebBenefit
A.VAdv: 33 B.Adv: 30 C.Neutral: 9 D.Disadv: 1 E.: 0
8a ProbSolving
A.VMuch: 42 B.Some: 25 C.Neutral: 2 D.NotAtAll: 4
9a ProblemSession
A.VUseful: 31 B.Useful: 30 C.Neutral: 10 D.NVUseful: 2 E.Useless: 2
9b Focus
A.VAdv: 29 B.Adv: 32 C.Neutral: 13 D.Disadv: 1 E.: 0
9c ProblemHelp
A.Very: 33 B.Yes: 32 C.Neutral: 7 D.No: 2 E.NotAtAll: 1
10a Quizzes
A.VUseful: 20 B.Useful: 34 C.Neutral: 12 D.NVUseful: 7 E.Useless: 2
11a NonProbDays
A.VUseful: 17 B.Useful: 41 C.Neutral: 11 D.NVUseful: 5 E.: 0
11b CallOnIndividuals
A.Excellent: 24 B.Good: 30 C.Neutral: 11 D.NotGood: 6 E.Horrible: 3
11c Discussion
A.VUseful: 30 B.Useful: 22 C.Neutral: 17 D.NVUseful: 4 E.: 0
11d Class
A.VUseful: 32 B.Useful: 31 C.Neutral: 9 D.NVUseful: 2 E.: 0
11f ClassSize
A.18: 26 B.30: 28 C.50: 8 D.Doesn'tMatter: 13
12a ProblemSets
A.Very: 31 B.Yes: 31 C.Neutral: 9 D.No: 2 E.NotAtAll: 2
12b Enjoyable
A.Very: 7 B.Yes: 24 C.Neutral: 22 D.No: 15 E.NotAtAll: 7
13a OfficeHoursEnough?
A.Very: 28 B.Yes: 32 C.Neutral: 11 D.No: 2 E.NotAtAll: 1
13b OfficeHours-Why?
A.SpecificQ: 41 B.Confirmation: 28 C.GainFromOthers: 40 D.Lost: 28 E.Habit: 6
14a ZeekVisits
A.Never: 19 B.1-time: 12 C.2-3-times: 15 D.4-6-times: 12 E.>6-times: 10
14b ZeekHelp
A.VHelpful: 36 B.Helpful: 15 C.Neutral: 5 D.: 0 E.: 0
14c CourtneyVisits
A.Never: 43 B.1-time: 10 C.2-3-times: 11 D.4-6-times: 1 E.>6-times: 1

14d CourtneyHelp
A.VHelpful: 10 B.Helpful: 12 C.Neutral: 14 D.NVHelpful: 2 E.NoHelp: 1
14e CarolineVisits
A.Never: 41 B.1-time: 9 C.2-3-times: 10 D.4-6-times: 5 E.>6-times: 1
14f CarolineHelp
A.VHelpful: 16 B.Helpful: 8 C.Neutral: 12 D.NVHelpful: 1 E.: 0
14g AndrewVisits
A.Never: 30 B.1-time: 12 C.2-3-times: 15 D.4-6-times: 3 E.>6-times: 6
14h AndrewHelp
A.VHelpful: 17 B.Helpful: 16 C.Neutral: 10 D.NVHelpful: 1 E.: 0
14i TracyVisits
A.Never: 42 B.1-time: 12 C.2-3-times: 8 D.4-6-times: 1 E.>6-times: 4
14j TracyHelp
A.VHelpful: 14 B.Helpful: 8 C.Neutral: 13 D.NVHelpful: 3 E.NoHelp: 1
15a ProblemSet/Exam
A.Very: 38 B.Yes: 22 C.Neutral: 6 D.No: 6 E.NotAtAll: 3
16a FewerQuestions
A.Very: 9 B.Yes: 18 C.Neutral: 17 D.No: 26 E.NotAtAll: 5
16b ImprovePreparation
A.Very: 9 B.Yes: 24 C.Neutral: 18 D.No: 23 E.NotAtAll: 1
16c TimedExams
A.Very: 5 B.Yes: 9 C.Neutral: 3 D.No: 26 E.NotAtAll: 32
17a LookedAtResponses
A.Very: 13 B.Yes: 35 C.Neutral: 2 D.No: 21 E.NotAtAll: 2
17b ResponsesHelpful
A.Very: 12 B.Yes: 23 C.Neutral: 16 D.No: 6 E.: 0
18a CFTRPaper
A.VSatisfying: 8 B.Satisfying: 24 C.Neutral: 14 D.Unsatisfying: 18 E.VUnsatisfying: 10
18b CFTRHelp
A.VHelpful: 15 B.Helpful: 30 C.Neutral: 20 D.NVHelpful: 6 E.NoHelp: 1
18c HIVaper
A.VSatisfying: 8 B.Satisfying: 25 C.Neutral: 15 D.Unsatisfying: 14 E.VUnsatisfying: 10
18d HIVHelp
A.VHelpful: 9 B.Helpful: 17 C.Neutral: 31 D.NVHelpful: 12 E.NoHelp: 3
19a HelpOnHowToFind
A.Very: 14 B.Yes: 38 C.Neutral: 8 D.No: 13 E.NotAtAll: 1
19b HowFindArticle
A.Computer-personal: 38 B.Computer-general: 26 C.TableOfContents: 5 D.Reference: 1
E.Other: 4
19c SampleSummaries
A.Very: 30 B.Yes: 34 C.Neutral: 1 D.No: 6 E.: 0
19d HelpHowToWrite
A.Very: 14 B.Yes: 24 C.Neutral: 10 D.No: 17 E.NotAtAll: 9
19e Summaries
A.VSatisfying: 7 B.Satisfying: 21 C.Neutral: 18 D.Unsatisfying: 19 E.VUnsatisfying: 9

20a SerialDilutionGood: 20	21a SerialDilutionBad: 18
20b DNAgood: 30	21b DNABad: 13
20c FliesGood: 29	21c FliesBad: 25
20d PCFlyGood: 8	21d PCFlyBad: 38
20e RecombGood: 51	21e RecombBad: 4
20f LacGood: 41	21f LacBad: 6
20g AgroGood: 29	21g AgroBad: 26

22a LabConnection
A.Very: 29 B.Yes: 32 C.Neutral: 8 D.No: 4 E.: 0
22b ConnectionLab2
A.Very: 18 B.Yes: 32 C.Neutral: 16 D.No: 5 E.NotAtAll: 1
23a FirstLab
A.Very: 11 B.Yes: 36 C.Neutral: 11 D.No: 13 E.NotAtAll: 3
23b WriteReports
A.Very: 18 B.Yes: 34 C.Neutral: 16 D.No: 5 E.NotAtAll: 1
24a LabQuizzes
A.Very: 4 B.Yes: 38 C.Neutral: 20 D.No: 11 E.NotAtAll: 1
24b FeltPreparedForLab
A.Very: 5 B.Yes: 27 C.Neutral: 20 D.No: 19 E.NotAtAll: 3
25a ManualFormat
A.Very: 20 B.Yes: 36 C.Neutral: 16 D.: 0 E.NotAtAll: 1
25b ManualContent
A.Very: 25 B.Yes: 39 C.Neutral: 6 D.No: 2 E.NotAtAll: 1
26a LabWork
A.Excessive: 32 B.BitHeavy: 23 C.Neutral: 19 D.: 0 E.: 0
26b LabWriting
A.Excessive: 43 B.BitHeavy: 25 C.Neutral: 6 D.: 0 E.: 0
27a TeamTeaching
A.Very: 22 B.Yes: 29 C.Neutral: 14 D.No: 6 E.NotAtAll: 3

Biol 213 Genetics Exit Questionnaire (Fall 1999) - Comments

1b Order*

I found it very confusing because its backward from the way I've learned about genetics before. Instead of it teaching me from a new angle (as I'm sure was intended), it left me confused and stumbling.

I agree that you have to know the molecualr basics of stuff. In fact, that is always what I have striven for -- to understand the chemical basics of biology as far as I can.

The order in which the material was presented made later concpets that were covered make more sense. I really liked the order in which the material was approached.

i actually had more enjoyment doing the molecular genetics than anything else

i'm really not sure if a different order would have benefitted me more or less. it seemed strange to put mendelian genetics later in the course since that's usually the opener for classes like these. all in all, it seemed to work though.

I think that the structure of the class was very effective.

The order was kind of confusing. Begining topics of molecular genetics without having an understan ding of what the "genetics" of Mendel are was confusing. I think that the lac operon and gene regulation and molecular genetic material from the begining would be valuable together. (ie, material from test 1 and 3 and 4 together, then material from 2) however mendelian genetics does break up the material and add a new twist rather than just looking at cellular components the whole time. overall, the order was advantageous because it made mendelian genetics more tangible and understandable. it was not an abstract topic, it was broken down and related to the cell and i found that helpful.

the flow of the class worked well, one section led into the next quite nicely and they built on eachother

By learning about molecular genetics first the reason for Mendelian genetics was seen more easily

I found the order in which the material was presented to be good. The first two topics were difficult, but not as hard as the lac operon. Thus, it was nice having lac as the third test. Cancer and population genetics are really interesting and make a good fourth topic. (this might change after the final!)

I don't really see how the difference in covering the material from other courses was either advantageous or disadvantage. I simply saw it as learning Genetics and feel that I would have learned the material in the same manner as if the course was taught the same as other courses.

I like things to be in order... including the concepts in class. It makes sense to me to start from the smallest (microscopic level) and work your way up from there.

I noticed about halfway through the class that we hadn't done ANY punnent square type stuff like I had expected. Looking back, I don't think this helped me learn the material any better, but it certainly didn't make the course less effective.

I was looking forward to getting into the meat of genetics when class began. It was dissapointing to be talking about proteins and membranes, stuff I thought we covered in Bio 211 and 212.

i thought that genetics was all about family trees, but i guess not... i could see how the material was supposed to flow from one thing topic to another, although i might not have completely understood the topics themselves

While it seemed like difficult material to be learning in the very beginning, I think that providing us with a basis in molecular genetics early on has been advantageous in the long run. Having a broader background in non-Mendelian genetics has helped me to understand Mendelian genetics, and has prepared me better for the problem solving which we have had to do in problem sets and on exams. This order develops critical thinking skills.

I liked the order a lot, it seemed to make more sense to me than the text's order.

i thought the flow of the course was very good- for whatever reason the order just made sense. It seemed very natural.

When discussing Mendelian genetics, it was much easier to have an understanding of what makes some of the aspects incomplete. It's much better to learn the molecular aspect first instead of having you tell us "well, this isn't completely true for reasons we'll tell you later." It made much more sense this way.

I just wish that, because the course was so strongly based on the molecular aspect, that a greater emphasis in teaching had been placed on it in the beginning

I thought that jumping right into the middle of the text was not right because most of it could not be understood.

I found it much easier to understand later concepts. Also, by knowing this info, there were that many more possible answers to problem sets

Understanding the molecular side of genetics helped very much with helping us have a clear understanding of genetics as it is currently practised

I thought the order of material that was studied was logical and made sense. I think it is important for us to understand the molecular aspect of genetics in order to get a better picture of what is happening when genes are inherited, etc. To be honest, I have never really thought about the order in which material was studied in this course, which shows me that the topics presented flowed very well. Although we jumped around in the text, I never felt that we were jumping around in terms of a logical progression of study.

It made the beginning of the course VERY frustrating and probrably caused a lot of people to drop the course. I don't feel as if this should be a "weeding out" course and that is what the order creates.

it think it kind of hepl even though I still think it made the class rather random and hard to follow at first.

i had no problems with the order

It broke me out of the mode of outting everything into dominant and recessive terms. I thought that was a great idea.

The order was perfectly sufficient.

Having a solid background of proteins and amino acids helped to think of what was happening at the molecular level during larger topics (Mendelian, mutations). A sound foundtain allowed me to think about other things than just the concepts; I was able to tie ideas to the molecular level.

I think it was wise to lecture in this sequence because the concept of genes was much more tangible to me. In the past I have been taught in the oppostite manner, and I remember that I didn't wuite grasp the big picture.

I thought the topics covered in class flowed well. By the end, when we were doing stuff that was familiar (Mendelian genetics and Hardy-Weinberg EQuilibrium), I had a solid base of knowledge to start from.

I think it was ok, I had never been introduced to any of this information and I thought everything went along smoothly

I believe that introducing the molecular principles of genetics was beneficial, in that the "theory-based" Mendelian aspect of genetics made more sense.

i think that learning the basics would have helped first and then it being appied to modern practice of genetics should have followed. I say neutral because i do not know how it would have been the other way

I thought that the course was paced and structured well.

i think this way allwoed a deeper understanding and appreciation for Mendelian genetics, because we had a better understainding of the what was occuring at the molecular level

I found the course setup very well planned for my studies.

It was easier to visualize things when molecular genetics was introduced first

2d Topics*

No topic seems useless now. It is quite clear that all are important for humanity. The course touches on a lot of things, that's good.

i liked the things involving mathematical problem solving because then i could actually see a concrete basis for the biological theories presented.

For me, the lac operon was by far the most interesting and valuable topic that we discussed. the operon model has enabled me to better understand virtually all cellular functions and create hypotheses of why things are the way the are. I found cancer topics confusing, but interesting. Probablitity was by far the hardest for me to grasp I think nothing in the course was useless.

I found most topics interesting. Nothing we covered was irrelevant

I was unaware of the complexity of genetics before taking this class. I feel as though my knowledge has been stretched to encompass the immensity of science... I sure as hell don't know much compared to what IS known and what is yet to be discovered.

better person? maybe a better geneticist...

I really felt everything we covered in class was "useful." I was more interested by some of the actual applications we addressed, for example probability, pedigree charts, the nature of mutation and cancer, and population genetics.

Nothing really seems useless to me--I feel that I learned a lot from this course that may or may not help me in the long run, but is useful knowledge nonetheless.

I think the structure of protein and DNA is useless to learn in this class because we've learned it so many times before. I think you can assume we understand helices and secondary structures.

I've done Drosophila to death. In retrospect, the paper and the symposium alone were enough work to be the final. Now I have to study for a test? Sorry, guys... but we're experiencing burn out here

I really do not have an appreciation for the fly lab now that it is all said and done. I am also upset that Dr. Lessem's labs had to turn their reports in at some random time of 1:00pm on Monday, but Brad's class had until late late monday night/tuesday morning. PC Fly lab was hard to use and I did not get anything from it mentally. I think that this was a good lab to do, and doing the progress report was very helpful, but i did not enjoy it i thought it was very fustrating when my flies would die and when my cross went haywire

All topics had use in pertaining to the class however I do not think all of them will help me in the real world.

In responce to part B, when we were first studying probabilities, I felt like I wasn't taking a genetics course but a math course on probabilities. But I soon realized how important it is to understand the concepts behind calculating probabilities in order to predict the likelihood of parents passing on a certain trait to their child, etc. So the study of probabilities is certainly not useless to me know, and related much to our study of inheritance.

The lab really helped the lac operon make sense and i really really enjoyed it. Similarly, the pedigrees were fascinated b/c they related to real life.

I thought all of the topics covered were relevant to the course.

the whole fly lab was terrible. Why actually raise the flies? It just caused aggravation. No genetics was actually learned by getting up at 7 in the morning after doing work all night for 2 weeks straight to count flies. It was a nice idea to be "hands on" but the work we had to do gave very minimal rewards. We should have just done the whole thing virtual or have been given the numbers, at least then the report would have been done while we were doing mendelian gentics and not weeks later when we had moved to other topics.

Mendelian genetics are not the focus of science today, and I can't stand their concepts. I suppose it's good to know the history of genetics, but it's a pain in the butt. Totally bland and uninteresting.

I think the topics dealing with eukaryotic (especially human) genetics were more worthwhile and more engaging

As a biology major, I found this stuff interesting (much more so in retrospect than when I was studying it) If it didn't interest me, I would have chosen the wrong major.....

out of all the topics we studied i most enjoyed the learning about cancer and being able to see the reasons things go wrong, i especially enjoyed the speaker who came in to talk about his findings, as for the other material, i also attained an appreciation for all the process that must take place so that the body is able to function.

I can't believe we covered all of this!

3c Workload*

Too many concepts. There was not time to even mention all of them in class, much less answer questions and/or explain them in class.

NOT CONSIDERING THE LAB, the workload is reasonable. Still, there were quite a lot of concepts introduced simultaneously. I guess that's inevitable.

There were too many problems on the problem set to be covered in our class groups.

I felt that we were expected to learn and understand a lot on our own from the readings and notes, and since I didn't always find them particularly simple or easy to understand, that meant that a lot of time was required of me out of class to go get extra help. The concelts were all very complicated and even though we did manage to get through them all and gain some working understanding of them, it would have been nice to be able to spend more class time really getting the concepts figured out.

I believe that there were too many concepts and problems, especially ones that were focused on in exams two and three.

For some of the units I think there was too much information. Learning the information and understanding the problems was more coherent when fewer problem sets, and thus fewer concepts were covered for a given unit.

Each night we read notes for the next class but we rarely ever got through all the concepts in class so every day we fell farther and farther behind, which put a lot of pressure on us.

I think if you broke the concepts down into smaller parts then they would be easier to grasp. I'd say too may concepts that were sometimes just grazed over.

the test were ridiculously impossible and it can be very frustrating preparing for a test when you know that it is going to have questions on it that you have absolutely no idea about

with lab it should be a 6 credit class

This is a four credit biology course so it was expected that we would have a lot of work. However since this course did not really require memorization of theory but rather an understanding of concepts the work level did not seem as excessive.

i really disliked the problem sets that had problem after problem from the book. the ones that were on the page that were more in depth helped me out more.

The combination of things that were due in this class at one time was unbeleivable. Entire weeknds were dedicated to study for open book genetic tests that took at least three hours to finish. AP tests are limited to one three hour sitting, and if successful you can obtain three or more college credtis for them. This semester will have included four three (plus) hour tests. In addition, the lab component of this course was time consuming enough to consider it a course all on its own. Throughout the semester it was as if Genetics was the oly class I was taking. I put a lot into this course, more then I hae ever done for anything.

I did not think that there was too much work -- the notes for each day were very helpful to figure out what to look over. I usually spent about 4 hours on the problem set on the weekend before problem set day -- the day that I probably prepared the most for each week -- but I did not think that time spent was unreasonable.

I dont honestly feel that any of the topics other than the lac operon was given thorough explanation or devoted enough time. I think next year you should cover the topics in more depth or at least spend more time on teaching and lest time on problem sets. the problem sets are interseting but if your not good at them, then it is almost not helpful. there are so many little tricks to the problems that no matter how well you understand the genetics, it is still very hard to answer a question.

The problem was not the number of concept or problems but the lack of examples given to give us a little boost when approaching the problem sets.

I have never done more work for a course. I spent a great deal of time understanding concepts outside of class because we did not cover them in class. I feel that the amount of material (concepts) that we covered were appppropriate I just wish that there was more class time to cover them all. However, office hours definitely helped sovle this problem:)

Definitely; I thought for the most part, there was too little time for the amount of work that we were covering in class. maybe there should be weekly quizzes that shoould count more than they are worth, because the quizzes given this semester were nothing compared to the exams themselves. The quizzes did not help me very much in that aspect.

The problems were difficult, which is fine, but it becomes a time-consuming class when you have to find a professor or TA everytime you want to check an answer. It was much more convenient when problems in the book were assigned and we could look them up. But at the same time, I understand that that is part of the learning process.

At times, the amount of reading and notes to go over seemed like a lot, but at other times it was not. The amount of problems per set probably should be shortened a little - it seems there is never enough time to go through all the problems.

it just seemed that the material was too hard...none of the students seemed to understand what was going on, and we all ended up cramming at the last moment to try and understand the material

Too many problems and sometimes, too many concepts

I know that at times I felt like Genetics must be the only class I was taking, because I was putting in such excessive amounts of time studying and preparing for class and exams. However, the work has thus far paid off, and therefore it is hard for me to be super critical. I think we covered concepts at a fine pace, I never felt overwhelmed by concepts. I think when I was feeling overworked, it was primarily because I

had so many difficult problems to solve in a period of time (i.e. before a problem-set day or exam). However, I realize that each of the problems served a purpose, and eventually... through help on problem-set days and review sessions, I would feel like I adequately understood the problems. I suppose, for me, it became a matter of convincing myself not to stress (which is very difficult) while working through the problems and realize that in the bigger scheme, things would work out before exam time.

i came into genetics expecting a challenge but what i faced was almost impossible. the work load was ridiculous. not to b efunny, but we do take other classes, and though i know things must be taught, just remember that we do have other classes to do work for. thanks.

I felt as though there was too much work, but perhaps for a subject such as this one, that much work is needed to understand the concepts.

It was heavy, but i dont think it was too much. This kind of stuff is not easy to get, to be able to understand,a nd really the only way to eventually do that it to go over it again and again.I thought the only way to get comfortable with the material was to work on it so much, spend so much time doing it.

I think there was an excessive amount of work for one course in one semester butin order for all that was covered to be presented i guess it it had to be that way -- maybe there should have been less concepts -- but i really don't know - now that it's almost done -- the large amount of work doesn't seem so bad

The reading wasn't excessive, but the problems and quizzes became a very large portion of my working time.

FAR TOO MUCH WORK. I did enjoy learning about the lac operon, but I understood it without a series of labs and a number of long problem sets. Too much work in general. I take other classes at school too!

I did not mind putting time into doing the problem sets because it was that much studying out of the way. There might have been too many problems in some of the sets.... the concepts covered i thought was a good amount. Also, the way the course was broken down into sections made sense.

Sometimes the readings were way too long but it was really the problem sets that had too many questions. If I had been a really avid student I could have spent up to ten hours figuring out thosse problems on my own. I just didn't have that much time every week.

I'd like to expand on my answers. I anwsered "neutral" for the first question, because I do not think you can get around a large work load if you want to get an in-depth study of genetics. Throughout the course, you definitely had to stay on your toes or it would come back to haunt you as test time approached, and I worked really hard for this class. But I that any good genetics course is going to require much time and effort, or else you'd only get a glimpse of concepts. So although there was a lot of work involved, I consider it necessary in a worthwhile course, since genetics is such a broad, expansive, and highly-detailed topic. In terms of the problems, there was not necessarily too many, but I just think that we did not have enough time to sufficiently go over them. I know that many of the problems, especially during the second half of the semester, did not come easily to me, and the 50 minutes in class on Mondays was not enough to do a particular problem set justice. Therefore outside help was definitely necessary for me to feel comfortable with the problem sets.

It was the amount of concepts. I felt like I didn't learn any concepts needed to complete the problem sets from the reading. So, after doing all the reading, I needed to find a way to get help on the problem sets, which almost seemed totally unrelated sometimes.

Too many concepts were introduced at once and often there was not enough time to address them all in lecture. I think many topics completely slipped by me.

There were al lot of concepts per unit time, but the problems were what took so much time to work through. It was a combination of learning all the material and then applying it to problems that took so much outside preparation. If I had had a heavy schedule, cours-wise, I would not have had nearly as much time as needed to do well in this course. I felt like once I had finished the work for this class-if I had time to finish-that there certainly was no time left for any of my other classes!!

There was too much work to do to understand the concepts for the unit. We had to do the online readings, try to figure out how they correlated with the class notes. Take the quiz online and try to use all of these to answer 10 to 16 difficult questions that in certain sections took an hour at least per problem. It was very time consuming and difficult to stay on top of everything and understand everything that you went over

i wish there were less concepts and we had had them more clearly explained

i just thought the work load was too much. with the amount of work we did it should have been worth more credits!!!!!

reasonable

I suppose you can never really have too many problems if the material was not overbearing, but I found it difficult to complete all the study questions and all of the problem sets with efficiency for each topic.

The types of problems we were asked to solve were way beyond the concepts we learning. However, I began to see towards the end that it was not necessary to put in a ton of time, it was just necessary to understand problem sets. The problems were challenging and interesting, but were difficult to answer since they deviated from traditional learning styles.

I feel an obligation to myself and fellow classmates to include the ridiculous amounts of time dedicated to the lab for this course. I did more work for lab alone than I did for my six credit french class, hands down. I think that the amount of work given in lecture was "a bit heavy", but I could deal with it. The combination of the two, lecture and lab however, really burnt me out, and I don't think I've ever been as happy to finish up a course in my entire career as a student. I think the fact that so much work is given in lab takes away the enjoyment (at risk of sounding cheesy) of lecture, because people get so sick of the stuff that after taking the tests, they never want to look at the material again. To answer the second question about concepts / problems, I felt that there were a lot of concepts that I only understood vaguely as a result of the majority of the course being taught on the web and not actually in class. It's hard to self teach a class li! ke genetics.

The class was all about what you put into it. Some days, I had excessive amounts of work because the material was difficult, it covered many concepts, and I took the time to figure everything out. Other days, I had minimal work because I didn't take as much time doing it, figuring I could just pick it up in class.

just too much work outside of class. It was horrible having to take all teh quizes and print up notes everyday it just takes too much time for a 4 credit course.

too many problems!

I believe there were too many concepts that were explained and outlined too little. When the weak foundation of concepts was built, the more indepth problems seemed excessive

this class was extremely excessive. It seemed like my only class even though i used time management. There was no reason that i should have to neglect my other classes for one class that i teach myself

If anyone put "too little," they are smoking crack. Therefore their answer should be discounted.

Too many problems that were not answered. When you are a hard-working student with a limited amount of time, it's annoying to work on problems and have the professors refuse to give you the answers for them unless you come and see them personally during hours that are not scheduled for the class.

The amount of work for each class period was not excessive, but the amount of time required to understand the problem set was a bit excessive. I do admit thought that without having this many problems it would be difficult to get a complete grasp of the material. The time i spent out side of class time and my own study time was in the study sessions in order to better understand what was going on.

The tests were a bit long and requred a lot of preparation in order to get a decent grade. Other than that, the work was maneagable.

I'm just a perfectionist..... There was a lot to cover, and I tried my best to see the big picture.

Things seemed good. A lot of reading was involved but nothing that was excessive

Yes there were too many problems and no answers

4b Textbook*

Helped at times. Honestly, if the notes were just a bit more detailed it woulnd't be necessary.

I would have learned almost nothing from the text ifg it were not for you to explain in class and have notes on teh web. Nevertheless, a text like this is needed. A very good idea to have open book exams. That way focus is not on memorization, rather on real life learning.

I thought the textbook made the concepts harder to understand. I thought the figures and tables in the book were helpful.

The textbook was VERY useful, although there were some ideas that were unclear.

The text was helpful in defining concepts or ideas that did not become immediately clear through notes or class. Sometimes, though it was unclear what was important and what was not important from the book.

Some topics were made clearer by the textbook, but some sections seemed very confusing compared to your notes and explanations.
It helped only when you didn't give notes on the subject. I preferred your notes. Sometimes the book gets a little wordy and/or too complex for a new topic. It makes basic levels of understandment for a new concept difficult.
gained most of my info from class notes and lecture
i didnt use it very much
The text book was quite helpful in expanding on what was printed in our on line notes.
i found the figures and charts and graphs advantageous since they summed up pictorally what was discussed in the web notes. the text was really confusing at times and didn't prove all that useful- the web notes helped much more so.
I thought the textbook was ok. It was farely straight-forward to read, and not too difficult to understand.
It was a good resource
the readings usually complemeted the notes
It was advantageous to an extent, but in some aspects it was difficult to understand what they trying to say
The textbook was helpful, but not as helpful, as Brad, Jeff, and the TA's!
The book did a good job at covering the material but I think the book should be updated, especially in the area of Cancer and other diseases that affect the population every day.
I like to have a reference and supplement to what we are learning. It seems to fill in and complete what might not be detailed in the notes. However, I am biased because my entire educational career has been dependent upon textbooks.
I thought the textbook was certainly a good resource, but a more current volume or one that follows the class more closely would be even moreso. Keep looking for a better one!
Some parts seemed totally over my head and only confused me more.
it was definitely used as a reference. when i needed clarification on a definition, i referred to the book, but i rarely learned from the text
But, not that much. It was really very confusing most of the time, and only helped me if I understood what I was reading before I read it (i.e. through class or help)
I thought the Genetics textbook was very good. I liked that we were not dependent on the textbook, but used it to define certain things and to explore certain topics.
the text book help broaden the understanding when the notes didnt exactly help.
I didn't feel that I used the text all that much.
helped out alot when i didnt understand a certain topic very well
I thought it was very useful- the pictures were great, and it did a fairly good job of explaining. A few concepts were still not understandable, but for the majority of concepts, it explained them very effectively.
The material was necessary for the class, so it was advantageous; however, it was often much easier to understand the material when it was explained to me in person, so it was not advantageous. I'm using neutral to serve as a 3 out of 5 on a goodness scale.
I thought it was one of the most confusing text books I have read. I have read several other text books on genetics, Including "Genes" 6th ed. and I thought it presented the material much better
It's the only one I'm selling back this semester. It was far too verbose. Brevity is indeed the key to communication
you don't even look at the text book, it only confuses you for what you guys want us to know for the tests.
For DNA replication and the topics at the beginning of the course, it was good. Later though, the book thourougly confused me, such as the lac operon topic.
The text did not explain concepts as clearly as you all did in class. If I read the text and at least got a basic knowledge of subjects before I came to lecture it often helped me grasp concepts easier.
I liked the organization of the textbook and the way that information was presented. I found it to be pretty user-friendly and understandable- a good resource.
It often seemed useless for what we were doing, but on the whole, it explained things pretty well.
The little boxes at the end of sections were very helpful in providing a brief overall explanation.
The textbook went to far in depth in some sections, but the diagrams used were extremely helpful in explaining the concepts.
the textbook was pretty informative.

the text book was not much help. in most sections it confused me more than helping me.
depended on the topic sometimes, but it usually helped to give brief explanations of concepts
I feel it did a good job, but wherever it was lacking the notes made up for it nicely.
The book was usually good at explained at some concepts. However, there were times when it went very in-depth with concepts we didn't focus on in class. It was hard to get through some of these concepts, as the details could bog you down. Generally it was good.
I think that in some subject areas the book was helpful, however other areas were horrible, I would reread paragraphs over and over again to understand what concepts were attempting to be communicated, which gets very frustrating.
Sometimes it clarified the notes, other times it confused me more. I like how you give us the page numbers that correspond with the notes in case we need to look something up.
When I was confused in class, the textbook didnt' help all that much
The textbook, in many cases, was more helpful in understanding with some concreteness the topics and concepts presented.
wasnt really useful because the things taught were so more current that the older text did not exactly apply
I felt that the text served to help explain things that I couldn't grasp from the lecture, but I don't think that it was necessary to read all of the assigned text.
Should have used it more. The textbook was less confusing and more thorough than the professors most of the time.
the textbook was merely a resource, i only used it to follow what was being talked abou in the notes
Sometimes your notes would be enough....sometimes I had to turn to the book for another approach to the material.
I used the text book a lot before reading the notes
I really didn't explain things clearly and left me guessing on many things

5b WebNotes*

If anything, more detail would be better. Note: NOT more concepts, but more detail on the concepts already presented.
A very good idea. Keep them up.
but having the notes online seemed to facilitate jeff and brad being able to skip a useful discussion of the material in class and just skip right to applications of them.
The daily notes, along with the quizzes and powerpoint presentations were extremely useful.
The notes were a helpful guide through the readings. Sometimes the notes were in too much of an outline form, though, which made connecting what was in the book, with how we should answer the study questions difficult.
It was nice to get the notes on the web so that class time could be spent listening and clarifying. However, I did feel that there was a lot of reading for this class each night, and I usually didnt understand things until class the next day or maybe not until the night before the exam.
I really like those alot.
i liked it when there were more notes on the web, not so much when we had to read a lot of pages in the book and answer the study questions. thats a bit too much for every class day.
These were very effective and looking back now i realize that the online quiz was a very necessary aspect since it forced us to read the material before coming to class.
i think this was a good format because it addressed the concepts in plain enlish (your english :) and usually followed a normal thought pattern. they differed greatly and were much more helpful than the book.
the web notes were so helpful, especially when they were detailed. I did not like the ones that were just study questions as much. I wrote classnotes in the margins of the web notes, and put together a binder containing them for each test.
Study questions were not useful because they were hard also.
a very good idea
The notes helped me understand the concepts taught.
The notes on the web is a very unique concept and I think it works well. It gives us an understanding of exactly what will be discussed in class.
I loved the notes on the web. They were EXTREMELY helpful. I would definitely do them again next year:)
I'm very impressed with the organization of the course on the web.

Although I found it kind of frustrating that I never knew which was going to cover the concept better - the book or the notes - this flipping back and forth sometimes made studying more time- consuming. I guess this is just the nature of the notes though.

They were not helpful when there were just study questions. They were most helpful when there was discussion in between the questions.

the notes would have been a good idea if they had been posted early enough so as not to promote procrastination. what ended up happening was that people would print out the notes right before class, and then come to class totally unprepared because it took so long for the notes to be posted.

However, I would like to point out that notes and quizzes and problem sets should be put up more in advance than 8PM the night before. Students have other classes as well, and they like to get things done ahead of time sometimes.

I was intrigued (and initially frustrated) by the completely web-based nature of the class, and I have come to really appreciate it. I love being able to download notes for class right in my room, and study them before class time. The only downfall is that I went through ink and paper for my printer like nothing else! I still would say I enjoyed printing the notes before class and adding to them as we discussed as opposed to furiously copying down notes during lecture.

the web notes helped and didnt help. it was a toss up, but definitely keep it because remember we do have other classes and the web can quickly be accessed when the rush is on.

I thought the web notes were VERY useful. They allowed us to get the notes, to see what we were going to talk about, not only before class, but anytime before class. If we were up working late, and needed to look at the notes vefore class in a week b/c that was when we had time, we could. It was just very convenient to have them, and it made class much easier and much more productive when we were prepared for what the lecture was going to be on before we got there.

i think it was a good way to present the material -- although at the time it was annoying to have to go to the web every time -- but it gave us the info before hand -- even though most of the time it made no sense at that point

These often made more sense than the book because they drew comparisons.

Great way to use techonlogy. Other departments should do the same

helped alittle, but the problem sets were all you had to worry about.

I think that are extremely helpful. We are able to tell you ahead of time what we do not have a handle on and i think that class time is much better used then. I always find classes to be boring when they go over material that is directly from the book that i have already read. Plus, the web notes clarify the screwy book concepts and they are somthing to refer back to rather than look everything up in the book.

I liked them fine. They explained things usually very clearly without a lot of excess information that would have made me lose interest.

In general, notes were very helpful, because they were well-worded in easily understandable terms that helped clear up areas in the book that I didn't understand. However, sometimes the notes only consisted of a general outline...in these cases I did not find them very helpful.

The only reason it did not work out for me was the amount of ink and paper i used. plus there are some people in the class without their own computers, so they would ask for copies.

but, when there were only questions, they were not helpful at all.

As much as I dreaded doing the study questions, they definitely helped explain the concepts and helped me to better understand them and apply them.

they could have helped more if they provided more of an extensive summary that combined class notes with the readings. aside from providing the study questions they really didn't do too much.

sometimes it was a burden to always have to print them off the web, also some times they were merely problems and not as much emphasis on covering the material. I think that the notes should be a summary review of the days material to be gone over and elaborated on in class.

much more help than the book.

The most useful tool for understanding concepts

They highlighted what you wanted us to get out of the ideas and concepts, which is good. The study questions helped, too.

I think that the notes were very helpful in explaining concepts that the book could not get across. Although it was frustrating that a concrete answer was never given for the study questions.

Great- but sometimes they were not up when I had set aside time to do my genetics work.

Easily understandable, yet with all the suggested readings, they were just too much, do one or the other

it is ok i guess. a lot of ink and paper but it seems more effective to get straight to the point and focus on what is necessary rather than a large amount of info in a text book.

The web notes provided a pragmatic outlet for accessing the day's notes, however I believe the notes in many cases were not helpful in understanding concepts. Some notes were really helpful and well put together (namely the one on cancer), but others were just filled with ambiguous study questions that led me nowhere

it was a good idea so we could know what to expect the next day but the quizzes were pointless

Very good. I would have been lost w/o them.

However, there were certain problems with web usage for this course. Also, the notes were jam-packed full of questions that there were no answers for unless the professors went over them in class or unless you saw them after class. (and sometimes even then they weren't answered.)

this was the best portion of the class, theses were helpful in directing me to the concept which were vital to understanding the material.

I liked the summary notes. Sometimes there were notes that mostly contained questions. While questions are good for practice, I found that reading the material from a different source helped strengthen my understanding.....ALSO, it would be very nice if notes could be posted more than a day in advance so that people can prepare in advance (to avoid crunch period)

They were good but I found I needed to read the book first...(I guess that's the point)

However there were times when I really didn't understand them

6g WebPage*

The WEBCT is a very good idea. Recommendation - update it earlier because sometimes it was updated the night before the class. The bulletin board is a new thign and people are not used to using it. Keep it up, it will become more useful, but will not replace direct conversation or even e-mail. A chat i a good idea. For example, a chat study session . You can do it from home.

have the quizes and the notes prepared in advance

There were too many problems with the web. The point of it, I thought, was to have all the resources readily available so that students could use them at their convenience. However, because the class notes and quizzes often weren't posted until late evening the night before they were due, insttead of letting students work ahead, it made them have to do it at the last minute.

It would have been better if the notes were available for the next class at least the day after the present class. (ie. If class were on Monday, the notes for Wednesday should be available on Tuesday, especially if the notes are just modified from the previous year.)

The web format for the class was very helpful. It kept students updated on what was happening.

I really liked the Bulletin Board, but I think you should make that a more well known feature of the web page. I didn't know about it until pretty far into the semester mainly because no one had ever posted anything on it.

This page is well organized and the recent addition of in class power point notes was very helpful. the calendar is an excelent idea. good job guys!!

it's one thing to read about something on a web page and another thing to actually experience doing it.

I think the bulletin board should be used more in the future -- I think that it is a good tool for communication, and genetics students should take more advantage of it next time around.

After each problem set there needs to be some kind of answers posted like the test. at the very least, a list of fundamental ideas the problems were trying to get at should be posted so the people who have trouble with the problems can use the information posted for the test. for example, in the begining, if i had known that actually i cant think of an example now, but it would have been helpful. for example for problem 9.13 if after the problem set you had posted that "there may be an alternate role for the cap-camp complex in allowing lactose to enter the cell and cause diauxic growth" or something that confers the general idea of the problem or a key idea.

Keep the coure materials on the web!!!!

Is it possible for you to combine the notes put on the web into a book because I don't think you realized how many students were going to print out every notes put on the web,which hwas a waste of time and paper.

I liked the Genetic Poetry section! It was a nice break from the hardcore science- another slant and something to be amused with. The Genetics homepage is well-organized and helpful.

but don't get rid of Genetic Poetry on account of me.

what was the point of the genetic poetry section other than to rhyme in science? the bulletin was very helpful once people started to use it. i didn't write anything, but it was still helpful to read what other people said, because many times their questions were things that i hadn't even thought of.

Again, I really enjoyed the web-based nature of this class. It was unique, and I think made me feel more independent. The web was a very quick and easy way for Brad and Jeff to get in touch with us, and I think made the course seem interactive even when we were not sitting in the lecture classroom.

features on the web page other than the quizzes and calender section really wasnt useful.

The genetic poetry section is pretty funny. If I had any poetry writing skill at all, I would compose for it...

Nope- it's great. Everything we need, and more!

I think that the Bulletin Board needs to be emphasized from day one of class. We use them for some of my other classes and they are really helpful. I don't think that this was as much because people weren't using it. If you post things you want the students to know then they will have to look at it and then they may start posting themselves

For d and e, I visited each of these area of the web page but didn't ue them for anything. Overall, I found the web page extremely useful in guiding me throughout the couse and answering any questions I had throughout the semester. In the beginning of the course, I thought it was going to be highly computer-based, and I viewed this as a negative. But I now find the internet aspect of this course to be an asset, a place for consultation and a good resourse to use when unsure about aspects of the course. I also found it very helpful in organizing me throughout the semester, especiallt the calender. All of the daily assignments are right there for you, as well as expectations for other assignments like article summaries, et.c So although there were some areas of the web-site that I rarely visited, it was good to have them there in the few instances I need them. Other areas of the website (calender, quizzes, course-at-a-glance) and I became good friends.

The calendar was the most useful portion of the home page. The poetry and links sections were of no help at all.

i like how the course is structured on the web!!

none

Keep the bulletin board and express to others how useful it can really be

Everything was good on the web. It made the class available at all times, which is good.

I didn't see a purpose in many of the links. Kids don't go to a webpages in their spare time to look up genetics related things. They want to get their work done. Period.

Course-at-a-glance: I used it only to write my summaries

I liked the genetic poetry section. It's a keeper. Even if it wasn't useful to me, it was still fun.

I found the bulletin board to be really useful. I think maybe if stuents utilize this more it would make the web page more user friendly.

The calendar was very helpful too! An updated section on office hours would be good... It would be nice if you could post answers or strategies up for tackling problems done in lecture (I know you want us to come to office hours, and I did, but this would also help studying...)

Yes make things easier to find

7b WebBenefit*

The quizes ended up being more stressful than helpful. If they are going to be used then all bugs should be worked out.

Yes, a good idea, but too heavy an emphasis is bad - I prefer to talk to th eteacher or see a physiaclly written text than any kind of web.

sometimes it was a good way of getting info out to people, but I don't know if it was worth all the trouble.

VERY GOOD IDEA!!! It was very helpful and useful.

SOmetimes things were not posted in as timely a manner as promised and that could be frustrating. OVerall, a very usefull tool from the student perspective.

Again it forced us to look at biology before coming to class as is expected by all subjects but really doesn't happen. The web makes genetics an every day occurrence in our lives because the night b4 class we read the notes and the next day we have class. A bit overwhelming but i guess it can't be helped.

i thought it was beneficial because it cut down on paper trails from teacher to student and you always knew where to go to get the information you needed. it also was accessable from all over (since computers are all over) which wouldn't be the case if you didn't have your notes with you.

I really didn't develop strong feelings either way for the emphasis on the web. It was convient in that you couldn't loose it. It was always right there for you to look up and see what needed to be done for the next class. At the same time it was repetitive taking a quiz everytime before class, and printing out all the web notes, etc.

it provided a 24 hour resource. we always knew where to look so there was little confusion.

The web page gave me access to the class no matter where I was and would often answer my small questions so I didn't have to bug anyone.

It had its advantages, except for the problems that sometimes arose because of programming problems.

It was a great tool for focusing in on the most pertinent concepts. The book can go off on tangents and I'd rather not study material that is not pertinent to what I need to know.

It made it easy to get the notes and other resources at any computer

It was nice because if you needed to call up notes that you had lost or take quizzes, you could do it all hours of the day at your own pace.

it is a good idea, but there still has to be teaching in the class- room. people all learn by different methods, and those who don't learn independently need more classroom methods.

Yes, I think the emphasis on the web forced us to become familiar with technology, while at the same time placing an emphasis on becoming independent learners. This was advantageous.

it helped..... thanks??????

yes, it gave us notes, and the calendar was great for looking ahead and planning and stuff.

It was always possible for us to know what was going on. There was no syllabus to lose, and the work was presented for us.

Can't sing enough praises about this aspect of the course

the same info could have been given to us throughtoout the semester du ring classes.

I liked being able to go there if i needed to know what was going on in class.

See above comments.

I think the quizzes were beneficial to get us ready for the next day's lecture.

It was beneficial in that we didn't have to keep track of excess papers. Information could be sent to us immediately without having to be handed out in class. We could also correspond with one another and voice our opinions on class matters.

it cut out alot of time that we would have taken up during class for quizes and such. also it provided us with lots of backup information because we could access any section as the year progressed

It was nice to always have a home base to refer to without having to contact a teacher or fellow student.

Yes, see above.

Yes I think it was effective for communication purposes. There was never any questions about what was due when, HOWEVER I WAS A STUDENT IN THE TUESDAY AM LAB AND WE WERE NEVER INFORMED OR FOREWARNED ABOUT THINGS WE NEEDED TO DO IN PREPARATION FOR THE LAB; SUCH THINGS WERE ALWAYS ANNOUNCED ON WEDNESDAY MORNINGS IN LECTURE AND I ALWAYS FELT LIKE OUR GROUP WERE GUINEA PIGS.

-except when stuff had not been updated yet

I thought it was great beign able to access all of the necessary information all any time. The quizes sucked though

I liked having everything accessable via the web. It's a great avenue for disbursing information (likewise mass emails) regarding exams, office hours, etc..

in ways it worked well for the students but it left us feeling like we were taking the course through the computer for the lecture part anyway

Yes, it forced you to do the reading for every class so that you couldn't get behind.

Unfortunately, the main problem with the web is that it required computer usage for access. Computers and networks are neither always available, nor are they always reliable. This was evidenced time and time again during the course. On many occasions, I would try to take the quiz and it would be unavailable then and available later, but it's not like I travel around campus with a computer strapped to my hip, you know? I had a very busy schedule this semester, and the web page was nothing but a pain. If I was not around a computer I could not access the notes or the quiz. There were many times

when I would be stuck in a certain place, computerless (many times off campus) and wanted to look at the notes, but could not. I think to be fair to students the notes should be prepared at least two to four days in advance so that we can print them out when we have the chance to. Also, the quizzes should be ditched completely unless their dependability can be insu! red. The quizzes are for a grade, and I am tempted to speak to Dean Leary about them.

YES, it was a convient and easy to utilize source and was reliable too

There was more reliablity on ones self.

I'm fascinated by this new class method!

It was good to be able to connect to the web at any moment and check things out.

8b ProbSolving*

I don't feel like I'm any better at solving problems in general -- I just know how Brad and Jeff want me to approach their problems.

The course definhitely taught me a lot, for example that life is so incredibly complex that I now admier scientists 100 times more than I did before, and I admired them a lot before., Also, I don't know if I believe the secrets of Nature can ever be resolved completely.

Although the problems were extremely difficult, I felt that my critical thinking skills were greatly increased in solving problems.

I feel much better about my problem solving skills as compared to the first day of class. However, I still find it difficult to approach exam questions and don't feel that I have made much progress on the exams in being able to show that progress.

It doesnt feel like my problem solving skills improved very much because the material on the problem sets got progressively harder, but I'm sure my skills must've improved at least a little. I think my confidence in dealing with the problems has increased, because I no longer view the problem sets as an impossible assignment. :)

Sometimes I felt like I was making things up. Sometimes I felt like I solved the problem. I would suggest if someone has a question about one of the problem set questions, try to answer that question as directly as possible, because trying to get it out of us wasn't always that direct or understandable. I often got more confused.

i guess i did do this but i definitely feel that there has to be a better way to achieve this than through giving out impossible tests. what these tests basically did was to turn me off from the class. i stopped doing as much work as the semester progressed because io figured that all the work wasnt going to do anything for the test.

the problems have certainly increased my analyzing skills and is a skill i can now use in all my other classes. it opens your mind to different ways of thinking which is always good.

i feel that i am better at these abilities but am also far from perfect. it's really so much easier for me to have the answer and work backwards but at test time i was able to look at the problems and figure out answers so i guess something clicked.

I feel that I am definitely a better problem solver for having taken this course, however, sometimes I wished that more lecture type classes had taken place as opposed to the problem set days. The problem set days helped in the sense that questions were answered, and a better understanding for the information was reached. However, I sometimes felt that a more lecture type classroom would have benefited the class.

I feel so much smarter! So much more prepared to tackle these hard problems.

I think that i am much better at disecting a lengthy problem and understanding what it is asking. i have been able to use creativity and principles to solve complex problem. i was scared because in the begining i was seriously struggling, but as the course progressed, it seemed to get easier for me. i find myself applying these problem solving skills to everyday problems that i face.

The problem solving enabled me to see how much I could learn using a different in critical thinking.

I believe that I have greatly increased my ability to solve problems and to figure out what I need to know to answer a problem.

I must say that my style of thinking has changed greatly for the better. I feel that I have learned a lot in this course but I truly that I was not ready for the professor to let go of my hand and make me go through to course on my own. But, I eventually got used to it.

I'm finding that if I put enough time and effort into the problems, I can eventually figure them out.

I think the major objective of this class is to become a better problem solver and to learn to think like a scientist - in my opinion, both of these goals have been met very well.

it just helped me get more frustrated with problem solving. i didn't try at all, and that was self defeating because i felt like i couldn't do anything right.

I'm still having major problems to complete these problems of yours on tests and on problem sets!! Did I learn anything? I guess so, but I'm still very frustrated by my apparent lack of being able to apply my knowledge on subjects to problems. Half the time, I cannot figure out what it is you are trying to ask. The other half of the time, the whole question looks Japanese to me!

Unbelievable. The problem sets and exams played an extraordinary role in increasing my ability to analyze problems and think critically. Just sitting through exams feeling completely clueless, but then being able to explain enough reasoning behind a possible answer (or two, or three) proved to me that I am capable of thinking and problem-solving on a greater level than I had ever given myself credit for.

it was definitely th ebiggest challenge in my life to date. i must admit i breezed through classes so far, but in genetics i worked my butt off. did it pay off. who knows. i hope it did. thanks.

I liked the problem-intensity of the course, I think it is a good thing to learn the skill of solving problems like that.

I very much enjoyed the problem solving portion of the course- it was like doing puzzles. It was fun (not easy, but fun).

its the thing you guys put in one of the notes after the exam -- although i didn't always get the problems right i really feel like i have improved in my ability to work through a problem --- i am usually the type to just give up when i don't understand -- and that's what i did on a lot of the problem questions -- but during the tests i wouldn't do that -- so i got so much better at working at problem until i got an answer i could understand -- and that made sense for the problem

I usually still need a push to come up with possible ideas, but once I have some possibilities I amaze myself.

I see this class is geared more towards problems solving and not so much on the actual material. The problems sets, although frustrating, helped develop problem solving skills.

I feel more as though my head has been smashed than as if I have gained problem solving ability

I really like the way this couse it taught. Doing the problem sets really makes everything come together in my mind and then going over them in a group i am able to understand the problems i couldn't get with several different views. If someone explains the problem one way and i still don't get it, someone else has a different perspective that i might understand. Keep the problem sets!!

I still don't think that without my group i could ever have completed many of those problems.

Definitely.....this course has taught me much about how to approach a problem, scientific or otherwise, and lead myself towards a solution. This has always been my weak point (i've always done better on tests where you memorize and regurgitate info than those involving application problems), so I think this course provided me with much needed guidance towards applying what I know to the solving of specific problems. This is what is often most important in the "real world."

Maybe this will take more time, but I don't feel that my problem solving skills have improved much.

Yes, but i believe that we needed more direction on them. And i don't think they should be introduced at the very beginning of the course. Or, maybe a possible answer sheet could be put on the web a week after the first problem set was completed.

I definitely have learned how to better solve genetic-related problems.

why is the emphasis of the course on problem solving related to genatics and not actual genetic information?

i still feel that I cannot manage to solve them !!

i have definately learned how to analyze problems and seek out information necessary for its solution!!

Where I feel I improved the most was identifying types of specific answers, realizing and characterzing the specific answer the question posed. However, I of course improved, but don't know how effectively I mastered obtaining those specific answers.

The entire course was one big problem-solving class, with emphasis on genetics. I have come a very long way since the first few weeks in terms of attacking problems.

I think that I have learned how to analyze things the way that you guys would like us to look at them and approach them. If the major objective of this course was to learn a lot, I definiteley did

I learned to start with the simple stuff, the stuff I know, and figure everything else out from there. I am more confident about it at least.

it is frustrating to look at a problem and not have any idea what to do, but with a little work it seems possible to do.

I feel that although my problem solving ability may have increased to some extent, the foundation that this ability was built on was very shaky. Many of the concepts were poorly presented, which resulted in major problems addressing questions on the problem sets and the exams.

i still have bad problem solving skills and this class highlighted it more... this class did not seem to improve problem solving skills, it just let me see different ways to get to the unknown

It definitely helped some, but I'm not so sure that I am that much better at it now than I was in Sept. But considering the difficulty of the material, I'm proud of what I got out of the material.

My problem-solving ability has always been reasonably high. This has been due in the past to courses I have taken and camps I have gone to that have stressed problem-solving. This course did not help me though, because we were trying to focus on the Process of the problem, without being given both the Question and the Answer. These are the three parts to a problem. Q, P, and A. However, two of the parts are always needed for the third to be determined. Your knowledge of this basic fact was not displayed in the implemetation of the problem sets. They taught neither me nor anyone else I talked to anything at all. Nothing. Except that two brilliant professors still did not understand the basic universal construct of the Problem. The only people who benefited from the problem sets were the ones who got the answers for them by seeing one or both of you during hours besides the ones we were signed up for for the class.

wow, i don't think there was a single time when i could quickly come up with an answer. all the problem sets required indept thinking about everything i knew and all that i might want to understand.

I found problem solving days to be quite helpful. Sometimes I felt pressured and overwhelmed, but after going to office hours later that week or just practicing, I grasped the concepts.

9d ProblemSessions*

TAs should be given the correct answers -- they didn't always have the correct ones and it was very counter-productive for them to either (a)help us with the wrong answer, or (b) tell us they had no idea.

Focus on a few problems is good. Sometimes I think it is better if you solve a problem for us or give the answer directly, instead og giving very vague hints, even for e-mail questions. It is quite obvious that if I sent an e-mail asking, then I really have no idea what to do, so a complete answer will stop my frustration and teach me for next time. Now, I stilll have no idea how to solve some of the problems.

This class time was very helpful. LImiting the number of problems was also beneficial. The class just wasn't long enough to even get through those few problems!

Sometimes the problem sets were so hard that we only got through the first few problems and we couldnt just do the starred problems because we were so lost on the really basic ones, so we had to start there. Before each test I felt that I had to get the answer to every problem so I'd usually spend 8 hours getting them all on Sunday, which was annoying. Again, I feel that too much information was being covered in one problem set/problem session.

the ta's helped sometimes but other times they had responses that were totally incorrect when we checked it with jeffor brad

the class and TA sessions were very helpful.

they were much more useful at the beginning of the semester- by the end i think we all slacked off a bit. focusing on a few problems was okay but sometimes i had more questions on ones that weren't starred than ones that were. TA's (Andrew was great!) and faculty were really patient and helpful to our group.

Focusing on some of the problems was advantageous. The problem set days helped some, but I feel that the problem sessions that the teachers held were more advantageous.

Zeek is awesome. She is my favorite TA

FOcusing on a few problems really helped. ta's were always helpful but they were sought after by everyone the problem sesions were useful to work in groups and solve problems

I enjoyed problem set days, but often times only 1 other member of my group had looked at the problem set. Usually I had spent a few hours on it prior to class and it ws frustrating when others had not looked at it because then we had to spend al great deal of time on only 1 or 2 problems.

I feel that we should have changed the groups periodically because in my group, by the time we got to problem set 12, we were simply talking about issues not pertaining to Genetics which was a waste of

time. I wish that I had been put with another group even so often so that I would not have to waste time on the problem sets.

The TA's are wonderful! I'm impressed with their knowledge and ability ot teach the concepts.

I wish the other members of my group were more prepared for the problems.

My group was rarely prepared and it was extremely difficult to get help from professors or TA's during the problem days. I found the only way I could efficiently work through problems was to go to office hours.

i think it all depends on the group you get because if no one in the group knows what's going on, then there's trouble. also, if no one in the group is motivated, there's no reason for any of the students to do the work

My group at problem set days was useless. Nobody except myself and 1 other person had even tried to attempt most of the problems on any problem set, so I really didn't gain anything, I just tried to explain all of the problems I had understood to the slackers in my group. What a waste of time for me!

Our problem set group wasn't always focused and on-task, but when we addressed the problems I found these days useful. Focusing on three or four problems was useful management of the in-class time, however the limitation meant that often memebers of the group showed up having only given thought to those 3-4 problems (or none at all). This wasn't a problem though, because sometimes our best work was done talking through the problem as a group. The faculty and TAs were available to us.

ta's were good. keep that.

Yes, they were very useful. It gave us a chance to work the problems with other students, and thus get their input and ideas. Other view points and suggestions are always useful.

i think the 3-4 problems made the sessions a lot more producive

It was useful to get other's opinions on problem days, but there were times when I didn't feel like we got anything done. The TA's and profs did help by getting us off to the right start without dishing out answers.

VARIED

beaceuse my team never did the problems on the assigned day

Focusing on three to four was useful but I still had to go back and go over the others b/c they were included in the exams so I dont really see a point to that.

Although these days were useful in many ways, I have mixed emotions about what was accomplished during them. I don't want to criticize anyone, but I'll say this since this is anonymous. In my group, I was usually one of two or three people who attempted the problems before class. The other group members did not often look at them, so I (and the other person) spent most of the time explaining certain problems to those who didn't even read them beforehand. Hwoever, people did give good insight as problems were being discussed, and even me having to explain certain things reinforced what I thought or made me realize that I was on the wrong track. Group members did help me a lot in giving me different perspectives on a problem or helping me to get started when I had no clue. So overall, sometimes problem sessions were extremely useful, while at other times they weren't as such. One suggestion- I think it would be very helpful to maybe have problem days where you go over problems like you did in review sessions- you leading us to the right answers by having class members solve the problems to the best of their ability (out loud for the whole class to hear), and then you lead us to the answer when we can't. Students could maybe vote for which problems to go over in class on the problem session days, like we did online before lecture days. Problem sessions held as a class with either of you leading us would have been more beneficial to me.

At the beginning, the days were very useful, but towards the end i was the only person who did the problem sets and it didn't help at all.

I didn't like the problem sessions and felt that unless the group members understood the material and problems, that the time spent in the sessions was useless. It did help to only focus on a few problems though. The teachers were very helpful when they came to our group to help us.

depended on the group'a attitude that day

Sometimes it was easy to drift off task but they were always useful. However, if I, for somereason didn't prepare the night before they were not very useful. I only have myself to blame for that.

TA's were GREAT.

Problem sets were very helpful when I did them and had questions, which has nothing to do with the genetics class itself

i think it was advantageous because there is not enough time to focus on all of them. if we did get through all of them, which was not very often we would move on to others.

Some PS days were very productive, especially when complex problems were explained, however for the most part, questions were answered with ambiguous responses which precluded attempts at completing the ps's. I think focusing on 3-4 questions was beneficial because there are several "take home" messages that can be summed up in those problems. The TA's were great the whole semester.. Kudos to all of them for their help!

they were useful until everyone gave up on the somewhat impossible problems and just sat there saying i have no idea how to solve it....3-4 problems is good but those are not the ones even on the exam

some, but they were not always sure on how to help, and you could get 3 different answers from 3 different TA's

Look above.

you can change anything you want but don't change the proble sessions working with my group was the time to actually bounce ideas off each other and figure out what to do with each problem. they were extremely benefical

sometimes the TA's wouldn't make it around to our group.... I liked my problem solving group in general, but sometimes I felt like I was the only one prepared....

Problem set days were only useful if most of the people in the group attempted the problems and were up to date with the material

10b Quizzes*

maybe to not make them quite so difficult when the topics were hard also

Be clear and upfront about whether the first or the last will count -- it makes a big difference in the way I use the quizzes.

Upload them a little earlier. Otherwise - good questions.

Sometimes jeff or brad would say, well from your quizzes i can see that everone understands this so we don;t need to focus on it-when really that wasn't always the case-and its not like we can purposely get certain questions wrong just to make sure the topics are covered in class

Daily quizes were helpful. Making sure that the grades and problems that you answered wrong always appear would make it a better learing experience, because if you have no idea which question you missed then you don't learn anything.

put more study question type questions on the quiz

just for lab not for class

I often wanted to complete the work two days in advance (like do Wednesday's work Monday night) but either couldnt' do all of it (the quiz wasn't yet online) or any of it (nothing was online yet). Then, when the night before came, i was often cramming for something else and would forget about the genetics quiz or all together.

again they forced us to be prepared for class

at times they just seemed like hinderances since they were so quick and general and had to be completed. however without them i probably wouldn't have done the job i did in reading the material without the knowledge that i was going to be tested on it after.

I think that maybe if the quizes were on a day delay it would be better. Like for example, if you had to take the quiz after the corresponding class that maybe they would be more beneficial.

I like how quizzes were done, despite logistical problems

no, sorry. they were good.

Quizzes helped me master the "basic" concepts before class.

I like that we received points on our tests for completing the quizzes. They were quick and easy to take. ANd it was nice being able to take them multipel times... takes thepressure off of scoring a %100 the first time.

They helped me stay on task, if nothing else. Also, the questions were a pretty good indication of the main concepts, so I could see where the lecture would go. I think explanations for the correct answers would be useful.

I have no problems with the quizzes.

Put them up at least 2-3 days in advance, with the advance notes...

I enjoyed the quizzes! I think the online interactive-ness of the quizzes is interesting, and I enjoyed seeing how prepared I was. Granted it was sometimes frustrating to get one or two wrong so I am extremely glad that the best score (essentially the effort) was counted rather than the first try. I think that if the best score is counted, the credit on tests is incentive enough to continue taking them. If the feedback is useful to the teachers as to where our problems are, then they are serving a purpose. If it would be more useful to see where people are missing questions the first few times they are taking the quiz, maybe count the first time but make it VERY CLEAR in class (for those panicky students) that the effort of taking the quiz is counted rather than the score!

it helped but class was a whole different monster.

They forced me to actually look at the material before class.

i think the quizzes were as useful as possible for a quiz -- getting things wrong here helped in the end

They were helpful to know what to expect in class, but since we could take them 5 times, I don't think they served the purpose the profs intended. We were supposed to learn the material and then prove we were prepared for class, but all we had to do was look at the questions and answers and choose the right one in the book. Too easy.

One comment: they made me read for class.

I used them to study for tests.... that's their true usefullness

becasue if you didn't understand the material, you could still get 100% because you can take the test over and over. The quizes were more of a hassle.

My suggestion is to change the quizzes each time a person reetakes it because when you leave the same one up it discourages us from actually doing the reading. You can get a good grade if you just take it over and over.

The on-line quizzes kept me current in my studies, because they forced advance preparation prior to class. I liked this extra incentive to stay current because it was something to make sure that I did not fall behind during really busy times. My only complaint is that sometimes I found errors in the quizzes, whereby the wrong answer was scored as correct. This was really frustrating b/c on those few occasions much time was spent trying to figure out if I was just off base or if the quiz was wrong.

No, I think they are fine the way they are.

The quizzes made us look over the material when we were assigned to, instead of putting it off until the test.

you could probably tell the kids why they got an answer wrong when it shows taht the answer that they picked was incorrect.

one suggestion might be. i'm sorry, i don't have any. i was fine with the structure.

no

They showed us what we were to get out of the readings. No suggestions.

at the beginning they were very useful because it would force me to read and keep up. at the end of the semester it didnt matter i would either keep retaking them or sign on as guest.

The quizzes were about the only concrete fact-based item in the whole course, and it was refreshing to get a CORRECT answer.

??

don't allow guests to take them, people don't have to study or read when guest answers are already available.

I thought that they were a great idea, because they at least somewhat assured that you'd be prepared for class.

Putting these aside, the quizzes could have been very helpful, and the several times that they did actually work, actually were.

the quizes were the wonderful motivation to study the notes, and that way i knew what i did and did not understand and the time in class could be more focused to make the most progress

they forced me to look at the material before class....which is a very good thing. In past bio classes I'd just attend lecture and read the material that night. At least this way the class had some idea of what was being presented =) Also, I would suggest that you not put up the quizzes on the guest account. I know of some people who would just do practice quizzes on the guest account and then do the real thing on their own account.

Make them harder. I could have done them without reading the notes. They were easy. if you want people to learn the stuff make quizzes harder

11g NonProbDays*

Class is way too big - I didn't come to this school to sit in a lecture course. Hard to call on a variety of people when the class is so large, the same people end up being called on again and again.

Discussiond are good, of course, but pure leacturing time has to be increased a little bit, I think

I think that it is good to ask questions in class, but I felt that on some days, more time was spent on the seating chart than the information we were supposed to be learning. I think you should wait for people to volunteer to answer questions.

b. it gave us a chance to have a better understanding of the topic since it requires thought and energy to prepare an answer, as opposed to sitting and listening to someone lecture while falling asleep.

Maybe let the students know which study questions you will definitely have time to go over in class ahead of time or let them know which topics you know you will go over (not including the input you get on the quiz) since you probably have a general idea from year to year which things trip students up the most. That way students could focus on being sure they were prepared for specific questions and less time would be wasted in class trying to find the student that has the right answer.

I found that by calling on individuals we wasted a lot of time, especially when the seating chart had to be revised every time someone moved seats for a day. I understand that calling on students is a good way to keep us all involved, and I do agree that its a good strategy, but maybe if it was done a little less we could get more topics covered. Smaller class sizes might make it easier for everyone to get their questions answered.

By making the class size smaller I think I would have felt less over whelmed. Sometimes I felt like my question got lost. Also, I had trouble hearing some of the other students when they spoke in class.

less questions- more answers- we're here to learn new infomation- if we knew the infomation already we would not be in the class

Time felt cramped at the end. Smaller classes would help, I think but that can't be orchestrated by you guys.

Class was particularly insightful and always left me thinking in the end. The fact that we discuss problems makes the class less boring and more interesting. I often left happy knowing that i was not just lectured to but rather helped with the understanding of a problem

i thought it was good how we were able to point out our problem areas in the quizzes and from them we were able to address them in class. i always think participation is good- keeps people alive, awake and involved (and at 9:20 in the morning those things are sometimes hard to do :) i found these days to be really useful since they were clarifications on problems i experienced the night before. many people said they thought they could not go to lecture and get away with it but i felt it necessary to go since i knew i personally would get something out of it. ideally, in any case not just genetics, the smaller the class size the better. more individual attention = more questions solved = taking away a lot more of the information presented.

I think that if the lecture days had a little more lecture about the facts they would have been better. for example, often the study of these classes was study questions. If the class also did some basics lecturing on the topic before applying them to the study questions, I think people would catch on a little quicker.

Calling on people is good, but if i did not get a chance to read the night before then i would not go to class because i was afraid to get called on. so in that way it was a serious disadvantage. maybe knowing that a few people are going to be in charge of answering questions on a given day would eliminate this problem. the discussion format is very useful and would be ideal in a small setting, however that is probably not likely.

In terms of encouraging class discussion -- make a factor in the grade the student receives.

A smaller class size would allow for more student-teacher interaction. However, I realize this is difficult due to constraints.

for the most part, it seem like the isues that I had a problem with were the ones never covered in class and that made me feel stupid because it implied that everyone else felt fine about the particular topic and I was the only oddball. Is it possible that you could devote more time in the schedule (make it worth more than 4 credit hours) so that everyone's questions could be answered?

The compromise for the coverage of the concepts for each lecture day was fair considering the amount of time available. However, the lecture always seemed incomplete because while the concpets we went over were fairly well covered, some of the concepts were never even approached. I'm not sure thought how that problem could be solved. Another thing that bothered me was I never knew what the answers

were to all the study questions in the notes. I like to know that I have a good sense for the basic concepts before moving on to the more difficult problem sets. It's like I'm plunging ahead, but I'm not quite ready. The discussions seemed to go fairly smoothly. Even though I don't like to be called on (I'd rather volunteer) I think it's best to call on people in light of the time factor. If the professor waits for someone to volunteer, time is often wasted, which is something that is detrimental in this class.

a smaller class would most likely lead to more discussion. asking for suggestions at the beginning of class might also cause more interaction.

I noticed that some people were called on consistently, while other people were rarely if ever called upon. The only way I really learned anything was through problem sessions at TA sessions. I found discussion hard to keep up with. It was hard to work through problem you had never seen before.

class size only matters if the teacher won't be able to get to know each student by name.

Class worked well. I liked the days which I felt like we covered class in a very simple lecture-style the best. I think that because the course focuses so much on independent learning, a reassuring lecture (teacher teaches student) class every so often is beneficial. I hate being called on in class, but I know it is good for me. :) I suppose that it is a good thing to call on students. Seeing the teacher's fumble with the seating charts and students' names the first few weeks cracked me up! (i.e. comic relief in the least!) I'd say in such a "big" lecture class (relative to UR class-size) it is useful to call on people because it makes everyone feel more connected. Hearing others called on made me learn their names, and then I was able to feel like I was in a more personalized class. (It is this whole idea of people with names as opposed to student numbers and faces) In my opinion, class-size is the "the smaller the better." (Which is why I am here a! t Richmond as opposed to Penn State!!) However, I was impressed by how smoothly our class went. I'm worried about the Cell / Molec class for next semester which has some 85 people registered!

for a persn who hates talking in front of people, or better yet a class, class was dreaded. for that reason i think you should recognize raised hands instead of calling on people. a person might have a right answer but it might not be given because the person might be to nervous or imtimidated to think of the answer.

although calling on people has its advantages -- most of the time things made a lot more sense when they were just presented and questions were asked

Any time a class is oriented toward discussion, smaller numbers are better to get everyone involved. Calling on people was a great way to do it, although I must admit I lived in fear of being summoned to answer. In a smaller group, it would be easier to share ideas. The discussions were useful overall because they brought out many ideas and let us know what was more correct and what wouldn't work in the process of analysis.

By answering the questions posed on the quizes, class was very helpful.

Try not to cover so much. Do you realize that we crammed so much in that we had tests outside of class time for necessity? It's a little extreme. The learning experience in college is, afterall, greatly dependent on we are able to do away from classes.

I found it frustrating when people were called on and they had no clue. You two had to lead them through a train of thought, which is fine, but i hated sitting there, knowing the answer and waiting for the light bulb to illuminate. Definitely no more than 30, 35 people because I think it is harder to come up with the topics to go over in class...the more people the less agreement over what would be helpful to go over in class. Plus, then the problem groups would get too large -- i think that 5 or 6 people is a good size group. If there are too many groups then your job will be that much harder. Everyone will have questions and you may not be able to get to all the groups or spend adequate time with them.

I like how people had to participate. it made me feel like i needed to do the work so i wouldnt look like an idiot in class. I really liked the power point or whatever those computer diagrams were. They were very helpful.

I felt that lectures were structured very well and were very advantageous to me. Difficult concepts were well- explained, and the power point diagrams and notes also helped a lot to enhance what you both talked about and give us a visual picture of what was going. Involving us in the discussion was very helpful, b / c it at least helped me to realize what I knew and what I needed to go over.

I honestly felt that the class was similar to the reading. I learned a lot of important information, but hardly ever information i needed for problem sets, and that's what i needed for the exams.

I learned much information during these days of class. The multimedia equipment was very helpful in explaining the concepts--especially to visual learners.

smaller class size, gives more people opportunity to give input

I hated that. Jeff wasted so much time each day loooking at the chart when no one was sitting in the correct seats anyway. Smaller classes would make evryone more comfortable and we would actaully be able to discuss things. Also, maybe doing a problem from the problem set a day would be better than taking a whole day a weeek to do it would be possible wiht smaller classes.

i would have loved more time on the topics.

no

The lectures seemed to focus on the study questions. I'm sure this incorporated the concepts we were supposed to understand, but I think it would have been better to actually lecture on the concepts and perhaps examples of problems associated. Calling on people seemed to make the class get hardly anything accomplished, but maybe some people learn better that way. I never gained any knowledge from other's questions or contributions, it helps me when teachers go over the ideas assigned for the class.

b. I know that you wre trying to integrate the class, but sometimes it is much more helpful to resolve a problem with the wisdom of a professor e. I think it's great that you guys are so dedicated to trying to improve your class. I at a loss though for good ideas to encourage class discussion.

The lectures varied considerably. Some days lecture was very enthralling and captivating, with material being presented in a logical easy-to-comprehend manner. Sometimes lecture was useless, creating more questions than answers. Regarding discussion, it was not really a part of lecture, aside from when people were called on. If discussion was a goal of the class, the class should be smaller than it was. If, however, the class is intended to be lecutre-oriented, then the size was fine.

it is good to atleast involve individuals in class, even though many seemed clueless..when talkin about topics...finish discussing them before moving on

I think that there is no way to encourage the discussion w / this type of scary material.

i thought it was good that from the quizes you knew what material to focus on and didn't waste time, i was always terrified that i would be called on in class, i can't do the on the spot stuff and always seemed to say something wrong. trying to take volunteers so that people don't have be worried about being called on might help, also if the classs size was smaller this might ease the tension and nervousness of those in the class because the class was so large it felt like you were in an audience instead of a class room

Regular class days I found mostly useful. I liked going over problems in class and being interactive. Before I transferred, my old bio classes were completely lecture in an auditorium of 500....TOO MANY! I like the small class sizes....and I was impressed how the teachers knew the students' names within a few weeks

To make it more of a discussion try to have everyone be involved talking with each other. You can do it like problem set days and go around asking people.

12c ProblemSets*

I think I missed this offer -- I had no idea.

Keep in mind that this is not the only course we are taking here at UR. I would wish to be able to give attention to all problems and ask you aboute them, butr that's physically impossible. That's why little attentioon was given to guest talks on Mondays.

I learned very well how to do the specific problems we had however, I'm not sure that it would help me solve other different problems because the problems were always so specific.

Just make yourselves available during office hours like you did this year. I think personal interaction when trying to figure out a problem is much more effective than via electronic means.

When all the answers were not figured out in a problem session most of us would just file away the problem set and not worry about it until the night before the exam. Because we immediately moved on to another set of lecture notes for Wednesday most of us didnt have time to finish up the problem set after monday's class. Again, I think this all stems from the fact that so much information is being covered in one semester.

Problem sets were painful no matter how you looked at them. I found it more effienct to work with just one other person and bounce thoughts off of her then my group

I didn't even know we could do that!!!!

again, like the tests, sometimes they were frustrating but i think they were a good way to prepare for the tests

enjoyable may not quite be the word, brain stimulating maybe even a little painful, but enjoyable no.

they were helpful in making us think logically but were tedious to complete. however it was satisfying when finally arriving at a correct answer.

I think with the goal of teh course set as problems solving, the sets acheived this, they were often difficult and trying, but they cheived this.

i guess i missed that option. i would have definetly used it.

keep encouraging and reminding students to ask for help

If you could just tell us if we were right or wrong, that would be a lot easier. I know you want us to learn through critical analysis, but it doesn't help when frustration sets in.

Honestly I did not know that you offered to confrim answers by e-mail!

I think the email idea could be very useful. I'm just not used to having my questions anaswered via email. Maybe mention and stress this option more?

I used the review sessions to answer my questions - this was all I needed.

For some reason, the problem sets became more interesting near the end of the semester. I know this sounds shallow, but I found the questions related to humans much more interesting than those of E.coli.

you don't confirm answers...you just answer our questions with more questions and that's really frustrating

Dropping our answers by and picking them up later. It is very hard to type in all of your problem-solving technique in an e-mail document for you guys to check.

I think the problem-sets served their purpose. They were often frustrating, and so open to interpretation that we got tired of working the problems. However, talking through them in problem-set groups and review sessions provided me with the best understanding of the concepts we addressed in class. In this way they were a "satisfying" means of accomplishing a goal. To be honest, I wasn't aware I could E-mail Brad or Jeff the answers I found and receive advice. I'd say just keep up those "review sessions," i.e. office hours. Those are seriously where I found the best answers to my questions concerning the problem-sets!

no. we have a few other classes toooo.

I think the review sessions / office hours are the best places to discuss the answers to problem sets--it is easier to talk about them in person.

not always enjoyable -- but satisfying when the right answer was reached

Help in class was, for the most part, sufficient. We all assumed we could get "redirection" from profs or TA's, so we didn't do much inquiring before class.

I never knew that was an option. But I never felt as if I got a clear answer anyhow - just more questions.

They were kind of frustrating. Why don't you put something up on the home page because i didnt even know that that was an option.

Through the problem sets, I got so much experience solving hypohtetical yet real-life genetics problems. I am really interested in genetic and human bio on the cell and molecular level, and the problem sets gave me a good idea of the problems that geneticists face and need to address. I think they were such a good way to learn genetics.

I know this disagrees with your method for running the course, but I think it would be beneficial to post the answers. You wouldn't need to post the solution, but then people could check to see if they were at least on the right track.

I didn't even know we could have confirmed our answers by email. Instead of having to type our answers, it would be easier to see the teacher one on one, as in the office hour review sessions.

they were not enjoyable, it was very frustrating to work on the earlier ones for more than an hour on several and get them mostly wrong and not know why. To confirm answers, either make solutions available on the web or hand out a packet of solutions so people can have access to them at their own free time and will.

problem set based review sessions, specifically planned after a problem set is due. Then we could add to the work accomplished with our problem set groups on prob set days.

some problems seemed useful and when you were finished, it felt like you accomplished something. others were plain stupid. Post the answers a few days after the problem set was due. We never know if we were right and that stunk. It would help to study for the tests.

sending out answers online.

They were effective, but some I feel were off base too much, and I concentrated too much effort in areas not needed. When I found that my efforts were successful in answereing some questions they were very satisfying.

Doing it at help sessions or at office hours. People didn't go to them as much because it was felt that no questions were answered; more questions were raised, making things more difficult. So I guess everyone figured that would happen on email, too.

b. no offense, but ridiculously timeconsuming work is never enjoying or satisfying c. do online problem sets?

i dont know if they were enjoyable but definitley more effective then jsut reading.

Initially, much time was spent on the problem sets, and little results were obtained. However, as the semester went on, the desire for concreteness of answers and methodologies was desired and the time spent on the ps's was less and less. The major problem I had regarding the problem sets was the lack of cohesiveness of answers provided. TA's would give one answer, Brad would give another, Jeff would give yet another. For the most part, when questions were asked, circuitous and ambiguous answers were provided, which is primarily why I didn't nec. take advantage of the email offer.

it helped on the test otherwise they wouldnt have been done..we could have the answer but if we dont understand how we got there it doesnt matter to check the answer

Getting one of the problems right by myself (and for me this was a rare experience) was an extrememly rewarding experience.

Heck yeah! Give us the answers in class!!! When we have the time to get them!!!

there just isn't enough time to spend on these problems, i only survived becasue of the problem session days and the office hours

I honestly didn't kn ow that was offered.

I found that going to office hours was more helpful than writing emails back and forth. In person I could ask many questions....

I didn't even know we could have done that--my bad.

Have a book in the library with the answers

13c OfficeHours*

I guess. The problem sets were helpful on the first two exams, but while taking the third I still felt completely unprepared when I looked at the exam questions, even though I had done the problem sets. (Honestly, there should be no less than 4-5 problem sets covering the material for each exam.

The TAs never seemed to know how to explain any problems-they couldn't really answer the questions of why and how one comes to a particular answer-they were not adaquately prepared, so although there were lots of office hours, I never had that many options because I felt it was a waste of my time to ask people questions who didn't know how to explain the material or answers to me.

I mostly went to office hours with specific questions or needing to verify answers., Even if I felt confident in being able to complete the problem sets that was not a ticket to me being particularly successful on the exams.

many times i didn't have any questions myself but i knew i'd learn something from someone else's. it's good to try to understand where others are having problems because they're usually the same areas where you have problems. , i figured out fairly early that the only to feel (somewhat :) confident going into one of the exams was to have a possible answer for each and every problem in the problem sets. i felt the problems on the exams drew from the problem sets greatly and it was great to be able to refer back to something i at least somewhat understood in order to apply it to the test.

you both were very accessible and this course would be ridicuolousy hard if you were not. , no matter how well i understood each problem it did not ensure success on the exam! this was definetly not the case in the begining you said the problem sets would be in a different form on the test and that is definetly not the case

Office hours were extremely helpful :) , I did all the problem sets and have done fine on the exams so far (knock on wood!) While taking the exams (especially #3) I felt like the problem sets did not prepare me at al , but in retrospect they did.

I don't know what I would have done withouth the office hours. THat's where much of my learning took place.

I mostly just went to the review sessions - I wish I had gone to more regular office hours, but didn't make the time to do so.

There were no Wednesday and Sat. office hours, which would have jived with my schedule better. As it was, going to office hours during the week meant either skipping a meal and rushing to a class afterwards or rushing to office hours after being in class for over 7 hours.

YEAH for Office Hours! These review sessions and office hours saved me when the class presented me with challenges. I was always able to talk out a problem, or find someone else who was working through the same problem and get guidance. I learned so much from sitting in on review sessions, even if I weren't asking my own specific questions. I think that listening to people solve problems really put me in the right mindset to think critically about the problem-set problems. , IT IS DECIDEDLY SO! The problem sets really trained my brain to think critically and analyze all facets of a problem. Even when I would be going off in a completely opposite direction with a problem than Jeff or Brad would be trying to point me in, I think seeing many different possible explanations actually enforced the problem-solving ability I am capable of.

Extra office hours around exam time was much appreciated!, Basically, if you could do the problem sets, you could do the exam. There were always really hard questions on exams that weren't necessarily like problems we did, but that's to be expected since it would be useless to basically have a replica of the problem sets on the exams.

i hated office hours b/c there were too many people and i usually went b/c i had a specific question. i never got my questions answered., I did the same on each exam, regardless of how well i completed the problem set.

The office hours certainly helped to understand the material. I wish there had been more hours for a certain professor, instead of a few for many different TA's and the 2 proffessors., The exam could not have been completed without first doing the problem sets.

I went to the TA's office hours because they really helped me to understand the questions. I sometimes learned the questions and the concepts by seeing the answer and then working backwards., Sometimes doing the assigned readings didn't even matter; all the tests were based on was your ability (or lack thereof) to perform the problem sets.

I actually never went to an extra help session. I don't quite know why. . . , Sometimes I wish that stuff from the book was integrated, because I am a faithful reader of the book

clueless and hoped to try to learn something, somewhat..but the exam was a copulation of everyhting on the problem sets...the exams were too much and should be looked at especiall the time factor...it was like a mini mcat for one course...unappropiate

NO, I am a fall sport athlete, and almost all of the office hours occurred during the afternoon when all of our time is filled with practice and meetings. , Yes, they helped, but there was no guaranteed entry to this road to success even if you did all of the problems.

I truly do believe that this course could be taught in such a way that hardly any students would ever require help outside of class. I personally wish that I could aid you in design changes in the course, because it has so much potential for being a really cool course, but would be afraid that you would be offended or disregard my advice due to my peon status as a student. (Pride is a terrible thing.)

it took me a little while to realize that this was the only way to make progress but once, i did it increase my thinking abilities and i was able to do more on my own, the main concepts and problems correlated very closely so that when exam time came i felt it was not necessary to study quiet that much since i had somewhat of a grasp on the problems in the problem set

Yes, although I must say that I was in class late in the afternoons on days when Brad and Jeff had their office hours. Maybe you can hold office hours a bit later? I know it's running into your other schedules. I preferred going to your OH's rather than the TA's because sometimes the TA's didn't know how to do the problems... , YES YES AND YES!!!!

14k TAs*

see comment above (i never saw andrew)

I found at times that some of the TA's were as unclear about some problems as I was. But overall they had good problem solving skills.

I went to Dr. Lessem when I had questions. They were usually concept questions. She was very helpful and straightfoward. I liked that.

i personnally know both zeek and andrew so i felt most comfortable about going to them for help. and help they did. they did quite a good job addressing problems and helping us find conclusions. many times, zeek even went out of her way to email us answers that couldn't be covered in the study session times.
I usually went to see Brad and Jeff instead of the TA's just because of my schedule.
the ta's need some form of answer sheet provided by the management!
Yay TA's!! They are an excellent supplement to the professors' time.
The fact that I never visited certain TAs doesn't reflect his or her competence. For the most part, I tried to go to Brad and Jeff simply because I was knew I would find help. I'm sure the TAs could have helped me as well, I admire them for taking on the challenge of TAing Biology 213! I simply didn't chance upon the TA review sessions and/or help hours as frequently as I attended Brad and Jeff's office hours.
the ta's were great. i couldnt imagine. all praise to them really. i was only able to benifit from them on problem days because of time restraints.
Thanks guys!
The TA's did a great job of preparing themselves for the most part, but often times they had questions on the same things I did and couldn't explain them very well.
Zeek was very good at anwering questions, and if she didn't know the answer she would get your email and go ask jeff or brad about it and send us an answer quite promptly. She is very friendly and not intimidating at all!! We love Zeek!
I only visited a TA once outside of class. Caroline and Andrew were my class's TA's, so that's why I said I visited them each 2-3 times. They were pretty helpful; they sometimes didn't know answers, but I can't blame them b/c they're not experts. They were always willing to try and help, though, and overall were helpful. I preferred to go directly to you both when I had questions, I can't say that I used the TA's much at all.
Tracy was amazing!!! Overall, the TA's were great!
I didn't know most of the TA's. Zeek was very helpful and so was the other TA that came during our problem set day, however, I never learned her name.
The TA's were wonderful, they really helped me to see what the problem sets were asking and how to approach them best. Very comforting and helpful.
ROCK ON! Kudos, again, to the TA's!!!!!
i tried to attend one of the TA's office hours and felt that the session was not helpful because the TA did not help all students and instead remained with a select portion of them
Zeek was wonderful! She went out of her way to explain problems, and to find answers if she couldn't provide them. She took the time to email us the answers too if she couldn't figure the problem out in class time...

15b OfficeHours*

some questions on the exam were very different from anything that ever appeared on a problem set
It was the only way to prepare for these exams.
th eexams were take this problem and solve it. not do problem sets and you will be ready. you could have went into the exam without one note, and made the smae grade as if you had study for hours.
exams definately reflected problem sets
Why not focus more on the problem sets???????????
except exam three, what's that about?
With the exception of understanding the articles, yes!
They were like having a problem set in front of me that i actually had to finish because i was being graded on it.
No matter how much time I spent on problem sets, I did not feel I was prepared for the exams.
However, a lot of times they stemmed beyond problem sets, but the problem sets are still anecessary component.

16d ExamFormat*

If it is a timed exam in class, then it should be more objective and closed book, I guess. You've chosen teh other format, and you're doing fine. Exam III was quite hard.

I think it's ridiculous that students are spending from 7-11 or 12 at night on an exam. Although it's good that the exams are untimed, when a majority of students are exceeding the suggested two hours, that should indicate that the exam should be shorter

i think there should be less questions on both problem sets and exams or different kinda of questions that do not simply deal with problem solving

I think the problems sets could be made as challenging and most like the exams as possible (The way the questions are phrased and expectations made clear)I think its good to have the exams untimed, however I have found that having them at the end of a long day hinders my performance.

Although the exams usually only took me 3 hours (ONLY), I was left so physically and mentally drained and I thought it was slightly unfair that we had class Monday morning and then an exam for 3-5 hours that same night. Given that we are all taking 3 or 4 other classes I think that it isnt fair for you to assume we have so much time to dedicate to Genetics. Having said that I do think that untimed exams are good because these exams are stressful enough without having to worry about time.

If you are going to make the exams as long as they are then you couldn't make the exam time timed. That would be unfair.

problem sets - especially for the 3rd probably could be geared more towards analysis of the data. Maybe have 2 problem-solving days for the problem sets prior to that test.

i really don't know how i'd change the exam periods. i don't think there were too many problems and the problems sets did help. i think it was the integration in problems (having to use and apply so many different concepts in one problem) which made them so hard. in some ways i think class exams would be better- a lot less stressful and tiring. but then the unlimited time gave us the ability to figure things out at our own pace instead of busily scribbling everything we learned on a sheet of a paper in a 50 minute time period.

THe tests were very trying. I had a hard time getting through them successfully, or at all actually. The problem sets were very useful in studying for the tests. I also like that the final is not cumulative.

DO NOT GIVE TIME LIMIT FOR EXAMS!!!

the exams were ridiculous. nothing could prepare me for them other than hooking up a computer and im'ing you the questions to get a correct response. timed exams would be worse because you would still be expected to know the same amount.

I have taken a long time for each exam because I need tome to think! If the exams were times then I would not have done very well.

I liked very much having unlimited time to complete the exams. I think better and more clearly when I'm not stressed for time- therefore my best work is done when I'm not under a time limit. The exams were difficult, but not insurmountable. IIt's just a idfferent type of exam, that once again I had never encountered in my previous years of education. Anytime someone comes across something new and difficult, there are bound to be moans and groans. I didn't think they were outragiously difficult, simply thought provoking and demanding of your brain power. It's a matter of switching your brain out of "lazy mode".

more time spent going over problems- perhaps a day in class where we went over problems in the problem sets outside our groups before the exam.

Although I liked having as long as I needed to complete an exam, I HATED having to be there for so long to complete it!!! I am definitely not alone in having to stay a long time to complete exams. Not only were they EXTREMELY DIFFICULT, they were also EXCRUCIATINGLY LONG!!!! So, while the exams might have to be, to some point difficult, I think that having the exams shorter would have left some of us with less despair and mental hysteria- which would have allowed us to stay more sane/focused so we could have done better/made a better attempt at the difficult exam.

This is a tough situation. I am sitting here pondering the exams in retrospect, and I am at a loss for a better way to handle them. While I know that after sitting in that room wracking my brain for upwards of five hours, I was sick of the test and secretly begging for multiple choice questions (Adenine is a A) purine or B)pyrimidine) :) HOWEVER... I have learned a great deal. The feeling of frustration, exhaustion and inadequacy I left Gottwald with three times thus far this semester was only surpassed by the excitement, satisfaction and amazement I felt three times this semester thus far when receiving the graded exams. I think that, for me, seeing the exams convinced me of what I am capable of. In this way, the exams, harrowing though they were, were an advantageous thing. It's so hard to ask for the easy way out--make the questions easier--because problems in real life are not always cut and dry, with

one or two simple solutions. Fewer problems wou! ld indeed not cover the material addressed in class as completely. I am not sure what to say, besides A) if the exams are kept at the challenging standard they have been this semester then DO NOT hold exams during the class period when time would be limited! The saving grace for me on these exams was knowing that I had all the time in the world (within reason). I definitely needed to sit and stare at the problems for a good hour before diving in, which is just the way I think and analyze. With the pressure of being in a time constraints, I surely would have choked. And, B) also if the exams are kept at a challenging level, then be sure to continue grading, as much as possible, in reflection of effort and thought and complete analysis because the questions can be so overwhelming and confusing that it is all one can hope for to write down everything that comes to them. What results is a big list reflecting a brainstorming session, and while I would imagine this can be diff! icult to grade quantitatively, it is important to take into! consideration the train of thought being presented. Afterall... If you were to make the exams easier, whatever would Biology 213 students be able to complain about? (My non-Bio major friends will not be forgetting the stories they have heard from this semester anytime soon!)

it was annoying at the time -- since exams took so long -- but i really don't think they could have been made shorter -- leaving out major things on the exams would make it seem useless to learn in class

Even though I realize they have made me a better thinker, I hated taking these test. They were impossible. I don't think there were too many questions, but I do think it would be very beneficial to have some questions that are a little more factual and straightforward. Not necessarily which base pair is which, but less difficult questions to serve as a jumping-off point for the harder stuff would be a good thing. I dreaded moving on to the next question, for I was never completely confident in my assumptions.

I found it hard to turn in my exam when there was no time limit. I felt the exams were very difficult and very physically and mentally draining.

Putting the exams in class would force them to be REASONABLE! Remember, I'm an undergrad!

only if the tests could be shorter and I don't know how you'd give a shorter test the way you want to have the students learn.

i was able to do much better onthe exams than in other courses because there was no time limit. I was calm and able to thouroughly think through a question before just putting down what first cam to my mind. Soemtimes the exam did seem long, but that might have been because i had to think so much about each question. I might shorten it by 2 or 3 questions, buti did not think the tests were bad at all.

I think you should give shorter exams. Just give more of them so you wont have to leave anything out. Also the seven at night thing didnt work for me because then i was in there all night.

I definitely appreciated the unlimited time to do the exams! Some teachers adhere to strict time limits when taking exams. In those cases, the exams don't measure how much you know or can figure out, but how fast you can write. I've always been a very "thorough" person (I hate to use the word "wordy") :), and have run into problems with time limits. I just don't agree with teachers who try to cram so much information into a test and then expect you to finish it in an hour. Sometimes you just need a little bit of time to reason through a problem, and with time limits I've often found that there's not much time for that- you either know it and write it down or you miss it b/c you only had a few seconds to superficially think about the problem. So basically what I'm saying is that although tests are an exhaustive experience, I think that they are very fair and I like the format. Don't change a thing.

The fact that we had no time limit was very advantageous, i don't think i would have ever gotten through an exam otherwise.

i finished the exams in time so the time constraint wouldn't affect me. I do feel that they should be timed b/c if people take six hours they obviously don't have a grasp on the material and should have studied beforehand.

The exams were extremely long and I definitely dreaded taking them. I don't think there should be timed exams because in the real world there are no tim constraints on figuring out problems, except death. Fewer questions would have been better for the exams. Even though they would have left out topics, we still would have studied them in preparation for the test.

If all aspects of the class, notes, lecture, and problem sets related a little more closely to eachother it would be beneficial for the class

a. I can see a final taking 5 hours but not a test, especially a test that i am going to have 3 others just like. That was just a little too much to ask. You walk away from those test like a mental and physical

vegetable! c. I think that it is most definitely necessary to have untimed test, it takes different people different amounts of time to figure out the problem based questions.

Too long I would get home at night and still have to do more work for other classes and not be able to think because I was just in a test for 5 hours. And each test took me more than 4 hours and that is a little extreme. We have other classes.

if you have fewer questions on the exams and need to cover the material then the course needs to be extended to two semisters!!

Tests could take up to 7 hours for some classmates. This is crazy, but I also sensed a feeling of accomplishment by them. Nevertheless, the tests were the longest and hardest I've ever seen. Morphing the problem sets to fit the data on the test would make them easier, but that would make the tests easier, too. I don't know, it's just a hard subject.

every time I take a test in this class its like taking a final

I think you can easily cover all aspects necessary in class, with easier problems. Noone understands how you guys grade, it woudl help if there were more of a clean cut answer at times.

i understand you want to touch on all the topics but a 4 hour exam is a bit extreme. i dont think i would want timed exams but perhaps a little shorter would be nice.

Better explanation and discussion of problem sets and actual answers to the questions would be extremely helpful. Also, having some people spend upwards of 5-6 hours on one exam is absolutely rediculous. There must be some method to that madness.

focus on the problems needed for the class not just random problems..a strict time period would hurt everyone because most people leave after 4 hours

Give us the answers so we can perfect the process!!!

i didn't think there were too many questions, and do think that if the problem sets were understood then the exam was not completely impossible and no, i don't agree with making the exams confined to a set time period it would not help with the main goal of the course which is to learn how to solve and analyze problems, in real life you might have to think about something for hours, or even days and the problems on our exam were like those in real life, so i think you should keep the night time as the test time

I can say that I've been one of the last people to leave at every exam. They're TOUGH! I really strain my brain trying to answer problems, and I try my hardest to come up with solutions. The bio exams I took when at UCBerkeley were 2 hours exactly...and all multiple choice. I really like writing out the explanations here because you can see what I really do/don't know ;o) Honestly, I think that tough exams really hit home....gotta say this class really made me work!

The Study Questions were helpful when we went over them in class. Many times study questions went unanswered.

If the exam had strict times and the test were the same length I would not finish them and more points would be deducted

17c ExamFeedback*

comments on exams too brief - honestly the limits I had to put on my answers on the exams were so brief that I couldn't reconstruct what I was thinking, so I couldn't figure out what I had done wrong. Also, if the final isn't cumulative, why should I bother to spend a lot of time going over old exams? There is always a ton of other work that has to be done for this course and I didn't want to fall behind in going over old material.

However, I found the normalized score to be very frustrating. On all three tests my score was decreased by at least five points because of the normalizing. I was under the impression that the normalizing was supposed to benefit all the students, not just the ones who did poorly on exams. There should be the option to take whichever is higher-raw or normalized-it's not fair that because I do well on the tests that I shouldn't receive the same benefits as those who didn't do as well

by the time it was possible to view corrections, it was too late to do me any good. also, it in no way helped be better prepare for subsequent exams

Comments on the exams were few and far between, but the stuff on the web was helpful.

By the time I left the exam room I was past the point of caring what the answers were. As long as I got a decent grade I didnt think it was worth it to allocate more time to looking at the correct answers. I only have so much time that I can spend on Genetics work.

honestly, once i took the test i was so tired and wornout that i didn't care to look at the answers. it was done and that was all i cared about. this is not to say that i didn't retain concepts because i did.
It would be nice if you provided those type of guided answers for problem sets also.
Yep! I loved being able to pull up the exact answers you were expecting on the exams and compare them to mine, on my own time. I think this method was more useful than if we had attempted to discuss the exams in class. Discussing an exam in class would have surely taken the entire period, and would have gotten quite chaotic. Class time was so vital to understanding the concepts we were trying to fit into the semester, that spending an entire class discussing the exam would have been frustrating. Posting the exam responses on the web was a good solution to saving time and nerves, while still allowing us to compare our responses to "official" responses.
I think that I was just so happy to finish an exam (b/c my brain was sore and my eyes were seeing double) by the time I was done that I really didn't want to have to think about it any more.
I have to admit that sometimes, it was hard to bring myself to look over and really study the solutions on the web after spending 5 hours actually taking the test
part (a) : I didn't know that responses were posted
Any questions I still had, I addressed teachers.
After the exams, I was so worn out that I didn't want to think about them again.
I could never make much use of the comments
Noone understands how you grade when no answers match the answers on the web and people still get B's
i felt like they were beat into my skull i couldnt look at them again.
I thought some of the responses were helpful, but the grading schema was very vague and didn't offer much explanation.
i still couldnt tell you what i did wrong on the exams
The exams were so harrowing that I didn't read the comments on the web. I didn't ever feel like thinking about the exam again.
sadly, i was too busy to look back at my old exam, i just saw the grade and went on with my life.
Yep. Sometimes I can't imagine how the answer was reached though...

18e AssignedPapers*

Figuring out what the articles were saying and relating that to concepts in class was very interesting.
I just didn't understand any of it I was just too complex for me.
the hiv paper was useless in my opininon, it helped achieve nothing.
I think that if I had attended the seminar that the HIV would have been more understandable.
although i understood the purpose of the articles- to apply taught principles in a reallife manner- i found them to be tedious and just another task to do in preparing for a test that was hard enough by itself.
reading the article was fun. it also showed that we had learned something that we could put into practice. the test on the other hand was not satisfying. i had a thorogh knowledge of both articles and still did not do well on the test questions pertaingin to them
There were so many terms that I had never seen and it was frustrating reading the article... like reading another language. The concepts seemed beyond my reach, but I suppose I got something out of it.
It took me a great deal of time to understand the HIV article, even after going to the session with the author.
The CFTR paper was completely over my head. I didn't understand a bit of it.
A word on your articles you picked out---CONFUSING! I realize that all of these articles are supposed to be, to some extent, confusing, especially the CFTR one was more than confusing. I still don't understand that article, after taking the exam, reading it numerous times, and after a few help sessions on the topic!!! The HIV one was the better, easier-to-understand one of the 2, but still pretty awful!! The articles I picked out for exams 2 and 4 were much easier to understand for me than the 2 articles you guys picked out. Why is that? I think that you WANTED us to read VERY CONFUSING articles, but WHY? Why not pick something you know we might be more likely to easily understand so we could get more out of the article? Is this all a big CONSPIRACY THEORY?
I'm not sure about this paper reading. I think it was good for me to learn how to approach a scientific paper. Although I feel like I was thrown into the mix, somewhat unprepared. I would have been more comfortable with a little more guidance concerning what the basics of the CFTR paper was trying to say. For the most part, I was satisfied with my understanding of the paper going into the exam though. I think the notes posted on the web were definitely helpful. I needed it spelled out for me, but in a way I

probably learned more by having to do it for myself. Very sneaky! The HIV paper was very interesting. And, how awesome is it that we met the author? It is EVEN COOLER THAT HE TEACHES AT PENN STATE! I loved that, I think having the session and seminar available to us was a really interesting new twist on having to interpret a scientific paper.

The HIV paper was very difficult, and I didn't feel as though goingto the seminar helped me much with understanding it at all.

from reading these articles i have gained a very important skill to have in the sciene world -- learned how to get the important info from something i knew very little about

Articles are highly confusing. I don't feel like I gained anything from reading them - they didn't add any insight to what I was learning in class, I didn't think. The HIV article was better than the first one, but the author didn't clear anything up in his talk.

the session with the author of the HIV paper was so so helpful.

Jargon is used to alienate. Man oh man was there a lot of jargon

we are not grad students, none of us understand the papers, we just make stuff up basically

I found it unsatisfying because i could not understand most of it (the CFTR one), plus i was not interested in that topic. The HIV paper on the other hand, while much harder to read,i thought, i was interested in that topic, so reading the paper was not bad at all. The seminar was definitely good!

I didn't really see the point in giving us more work(the work we had to go through trying to understand those papers) when your class is already too much work what with lab and everything

The articles were something different to do along with the normal class routine. I enjoyed reading them, especially when I found that there was actually a lot within each article that I could understand (although their were difficult, some scientific articles are like another language completely). They were also very interesting to me.

I felt like I had learned from the article, but I wasn't ready to apply it to other things yet. I didn't feel I was on that level.

I enjoyed understanding and reading the papers because it applied knowledge I was learning in class. However, the articles were just too confusing to completely understand.

It was really interesting to incoportate the ideas we were learning in class to real-life scientific findings. I really enjoyed learning modern-day concepts.

the articles more confused me than anything else. Why read something that's going to make me more confused?

the hiv article was difficult to understand and the guest seminar by the author was even more difficult to understand.

the hiv paper is something that we could somewhat relate to but im not a grad student

i did see some benefit in the articles we had to read, but i think that they didn't tie in very well with the material we were learning about

The articles were challenging, but again, it's because we were reading something new. I remember first looking at the CFTR article and thinking, "oh my God!" Now I look at it and can understand parts...

19f Summaries*

I felt I had followed directions and written a good summary and still got a very poor grade (in my opinion). Either I did not understand what was expected, or I wrote a very bad summary (which I don't generally do).

it was satisfying because i learned how to find articles, and utilize the science library.

This was a good idea.

Again, I only have so much time to dedicate to your class. I think you need to think more carefully about what you really want us to spend our time on, because we cant do it all.

i thought my summary was pretty good but it got torn apart, despite the fact that i followed the guidelines on the web

i was so lost at first at how to find an article- i could not get ovid to work for the life of me. eventually i was able to find one but it certainly wasn't an easy process. overall i guess my view for the previous question fits for this one as well.

I really did not enjoy having to write a summary in addition to studying for a paper. It was a lot to do, and it wasn't an easy task.

this was my favorite part of the course next to the UR symposium.

I did very badly on my first article summary:(I guess I did not know what I was doing, but I though that I did. Maybe next year offer to read "prcatice summaries before the exam so everyone has a chance to get feedback before they are graded.

spent an exorbanant amount of time on my article, which seemed to be more difficult than most other people's, and got a poor grade my summary - brought down my exam grade.

need to be more specific about what we can and can't use because when i (and many others) came to get the articles checked, we were told that they were fine and pertinent to the section, but then at the exam, we were penilized because they were 'not relevant to the section'

I enjoyed the 2 articles I read immensely. I love researching topics I am interested in and I also picked articles that I COULD UNDERSTAND!! (Which I couldn't do when you guys handed out your papers of gibberish for exams 1 and 3!!)

This was great fun for me. I totally got to talk about animals I love, and I related it all back to Mendelian genetics! This first summary made me a happy camper. I used the computer to find articles concerning the animals I had hoped to research, and then played with one particular journal to find the most appropriate article relating to class. The sample summaries posted on the web were so helpful. I was able to model mine after the "good" summary and make sure to avoid the mistakes evident in the "bad" summary. That was enough guidance and instruction for me, I was just looking for some assurance that I was headed in the right direction. I thought this first summary was an extremely satisfying experience. I'm a little more worried about this second summary that I am in the process of writing, simply because I am less familiar with the topic and have less background to go on when explaining the article. Attending the poster sessions and talking with ! the presenters did help me to figure out the basis behind the article I chose though, so we will see!

I don't feel like I learned anything relevant.

You said that my article was fine before and then questioned why I pick such an article. That would have been useful BEFORE I had to read the darn thing!

I found it a pain to have to write up the summary, but i liked both of the articles i found and enjoyed reading them...

I think that i had enough to deal with without doing those summaries

I thought the guidance on how to write summaries and the sample summaries on the web were extremely useful, and I personally referred to them a lot while writing the first summary (I have yet to write the second).

The grades on the summaries should be an indication that we did not know how to write them. The articles that you gave us i found very interesting. i learned how to read a scientific article, thank you.

Writing the summaries was a good experience to have in a science class, but we really didn't know how to write them.

it's stressful when faced with an exam to take on top of a summary to write

i felt that i understood the assignment and i put in a lot of time yet my grade did not reflect that at all.

It's good to become accustomed to reading and analyzing journal entries, however, the grading schema for these was not properly identified or applied.

It was good to get experience reading the articles, but I think that the assignments were too vague to be helpful.

i did enjoy this more than i did trying to understand the articles tha were assigned to us

Honestly, I thought I followed the summary format pretty well for the first exam....but I got a score of 8/15! I know it wasn't my best summary, but many of the points taken off were not mentioned in the samples.... They were somewhat misleading in my opinion. Maybe if you put more examples online....

I found it satisfying because those articles were not easy reading. I had to read them through more than a couple times, so in the end when I could actually write something about it, it was helpful

20h BestLabs*

I liked running a gel, I always wanted to learn how. One of the only things about the lac operon I found interesting, informative, or understandable was the lab on regulation of lac.

Enjoyed these two the most.

all labs helped to explain the general concepts learned in lecture - some were just more interesting than others - i got nothing out of the Fly lab

I feel that these labs helped clarify the concepts studied in the lecture. I also found them the most interesting.

i did not find the labs very valuble, and felt they did not help at all with lecture

Each of these labs allowed for hands-on learing of concepts being taught in lecture.

I didnt understand the lac operon until this lab. Thank goodness for Dr. Lessem!!! Complementation and recombination also seemed more clear after the labs.

The two labs I selected were the most valuable to me because they helped me the most to understand complex topics. The other ones were not unvaluable but those were the most.

Serial dilution: showed me that I really needed to work on dilutions isolation/characterization of DNA: helped me understand the existence of DNA in cell, and what the "junk" was that we had to get rid of in order to get pure DNA recombination/complementatoin: it was just cool to be able to see the changes in the chromosomes on the agar plates.

The serial dilution was very important starting lab since we were required to do these throughout the entire semester. imust admit it was not one of my favorites though. the recombination lab made perfect sence and the results were very conclusive it let us experience what we were talking about in class. the same applies for the lac lab the material in the lab manual greatly complemented class notes.the Agro project was interesting b/c it made us feel like we were part of this great genetic breakthrough in understanding Agro better.. the fly lab was the ultimate worse.

the recomb/comp lab was useful because we actually saw that these principles worked first hand. its so hard to think that these things really do happen since they happen at a molecular level that we can't see. regulation of lac was useful because greatly clarified the functions of the different parts of the lac operon for us by looking at mutations.

I thought the regualtion of the lac lab was very helpful because it helped to confirm the entire concept in my mind. The agro project was interesteing because it went through a whole research process that I will undoubtedly see againn. I liked doing the serial dilution lab, it was fun.

I did not really like the instructions for PC-Fly -- I thought that the online manual was very unhelpful. I thought that the program was neat, but the instructions did not enable me to understand the full capabilities of the program. Maybe include in the instructions an EXAMPLE of how to do the crosses -- it took me about 4-5 hours to figure out how to use the PC-fly program. I think this time could have been minimized to like 20 minutes if there was an example written down on how to use it. A lot of my friends in the class did not understand how to use it either, and some people did not even end up using pc-fly in their fly reports because they were so frustrated with it.

the serial dilution was stupid to write up! it was a waste. the isol/char of plasmid was the most practical use of genetic lab techniques. the pc fly was another waste of time because tehre was not enough guidance. it is a great program but no one understood it and it could have been a great tool if we had practiced with it in lab. the lac lab was a good timed assay that reinforced lecture material. the agro project ruled! i found it the most satisfying because it showed that I learned soemthign and it had enough freedom and informality that i was not scared to present it. the fly lab just didnt do anything for me. most people enjoyed it, but i think the time could have been better spent with more genetic techniques or poster projects. i think this is the best lab in a science class that i have had because i learned a ton of practical lab techniques and reinforced lecture material.

The serial dilution lab introduced us to techniques we would later be using in lab. I found it to be very helpful, especially in the outline given us in helping us to write the report. The lab on regulation of lac related very well to what we were discussing in class, and I found that it helped me to better understand the concepts. The same is true for the recomb/complementation lab.

Actually I found almost all labs to be valuable. While doing the agro lab and the fly lab I was extremely frustrated at times. However, while these labs were the most challenging I also feel that i have learned the most from them!

I learned the most from these experiments. They were written very well in the lab book and I understood what I was ding in the experiments.

reinforced topics I found difficult in lecture - were a genuinely good aid in understanding the class topics better.

Once I had PCFly explained to me by a faculty member, it made so much sense to me and helped me immensely to draw all the info from the fly lab together. (By the way, guys, more EXPLANATION/TUTORIAL/INSTRUCTIONS needs ABSOLUTELY to be given on this PCFly stuff!!!

I would have NEVER, EVER, EVER figured it out without that helpful faculty member running through it with me for about an hour--and i know that ALL OF MY COLLEGUES HAD THIS SAME PROBLEM!!) Dr. Lessem helped to explain my observed results to me for the recom/complementation lab---which aided in my doing well on that similar portion on the following exam.

Ok, I know this doesn't seem like helpful feedback, but here is the run-down: The Serial dilution lab was helpful because it set the scene for laboratory experimentation and really made it clear in my mind how to dilute and why we need to do so. The Isolation and Characterization of plasmid DNA totally explains a key concept of genetic experimentation. I had played with plasmid DNA in previous Genetics labs (High School) and so I had some background, this lab provided me with good practice and new applications. The Fly lab, as frustrating as I found it after my cross died two times, I think really does show a very applicable example of genetic experimentation. PC-Fly is a very interesting program, and valuable to have some confirmation of the data we collected in the Fly lab. Recombination and Complementation addresses two very essential concepts in genetic inheritance. For this reason, the lab was valuable, and an important piece of the puzzle for understanding the concepts addressed in class. Regulation of lac was a great lab for this same reason, it really made the concepts addressed in lecture crystal clear. The Agrobacterium Genomics Poster Project was FUN! It was a great opportunity to really witness what can be analyzed from a single sequence of bases. It was valuable practice in presenting a poster in a research symposium setting.

the work load in lab was crazy. please dont put anyone else through that.

I feel as though I really learned something from these labs besides just the lab technique.

allows us to see these key concepts in reality rather than in a book or on a piece of paper

these are just the labs i liked the most -- i don't know how they were valuable we had to do them all -- i never thought about how useful they were -- they are probably more useful than i realize -- doing them at the time probably complemented lecture info more than i know

These two both made genetics real. The fly lab gave us organisms we could actually see and showed us how genes function on a phenotypic level. This made everything else make sense. Being able to see genetics in action makes this one worth while. The Agro project had the same effect. Drawing conclusions about a mere sequence of letters really draws the relationship together. This project took us through the levels of genetics, and this was the helpful part. It also gave us a chance to know how to prove ourselves through experimentation, and I was surprised and proud when I figured it out.

It was like a real life experiment. The ones in lab seemeed so contrived.

It was interesting to see this actual experiment; however, I needed NONE of the labs to understand the concepts

i hated the fly lab because it was so time consuming and I hated teh Agro project becasue I didn't know what I was doing. Lab should beworth three credits, having a lab that you do more work for than any other lecture class you take is wrong and annoyingly frustrating.

Doing serial dilutions is something we should know how to do for future labs. The Recombination, Complementation lab was interesting in theory, but i wish that we could do it with organisms we can see. The regulation of lac was what enabled me to understand what we were talking about in lecture, so definitely keep that one! THe agro project was pretty cool. I liked trying to figure out what the heck we were looking at and then presenting it. I had a good time at the symposium and actually understood some of the posters! The hurricane messed up lab for the isolation of plasmid DNA and my slacker partners never wentin and ran the total DNA (I had the plasmid DNA) so that was disappointing and it made my results harder to understand.

Serial dilution because it prepared us for other labs. The other two because i really saw a connection to what we were talking about in class and because they were interesting.

For serial dilution, I found this one valuable b/c it taught me dilution techniques that I had to use a lot in later labs. The fly lab was valuable b/c it taught me so much about inheritance patterns. I liked it because the data we analysed was data we collected ourselves, so we got the chance to do a real-life study instead of being handed a piece of paper with data on it. Although I was so happy to turn that report into Dr. Lessem yesterday and never want to clean out fly vials again, I have to say that it was such a worthwhile experience. I just really liked the Recomb/Complementation lab. Lastly, the Agro project was really beneficial b/c it showed us how much information is out there on the web and all the resources that can be accessed for genetic analysis. I used the NCBI site last year for molecular evolution to try to identify some sequences, but other than that I didn't know the other sites existed.

These labs, I felt, related most to concepts studied in class.
Helped me understand the topics in class. Lab was extremely beneficial.
Isol/Char of plasmid- learned more about plasmids Fly lab-hands on experience, maintaining organisms recomb--saw how to relate plaques to recomb and compl
These labs helped me to understand the concepts underlining the experiments with out confusing me. I thought I understood mendelian genetics byt he fly lab told me other wise. The labs that I picked I really learned the material and felt confident about writing about them.
It provided a chance to do real research on a new topic of study and to work in groups outside of class. We found what we could on our topic by our own means. I thought it provided a very real experience and the symposium was very informative
one could actually see the results with your very own eyes. I would have to say that the fly lab was in the end worthwhile, but on the whole I think that it was a little unbalance, some people as a result of their strains or others' mistakes, had to continue counting progeny or maintaining crosses entirely too long
I learned something in each of these labs, that did not happen with the others.
it helped me understand the concept much better
these topics are important all around for understanding genetics
these labs really helped my understanding of what we covered in class
These labs sort of tied together or concept or really made me recognize the purpose of the things we were studying. They were also the most difficult for me.
The first four really helped to make the concepts clear through experiencing them first hand. The other one was great because it was involvement in an on-going project; very interesting.
These were harder concepts where it was quite useful to get hands on experience with the subject in order to better understand it Fly lab was ridiculous, especially since every one and their mother did that lab their sophomore year of high school- it's just very uninteresting. The amount of time spent on any lab paper never equalled the grade received.
-these were the least frustrating and understandable. Some of the labs I still don't understand.
THese labs were easily understandable, either you had it or you didn't, then you can investigate teh reasons you had it or not.
i guess the serial dilution, recomb/complem were both useful and important for most people to know. the fly lab was very important however it was just dragged on forever. i think the final report could have been due sometime before the last day of class. it was just too much finishing out the semester.
These two labs were very beneficial because they seemed to reenforce topics discussed in lab with much accuracy
most valuable because it was extremely hands on and we could see the results and somewhat understand them better than the other irrelevant topics
serial dilution taught important techniques....fly lab was obviously an important experiment to do to understand mendelian genetics...agro was a real life research experience
Hands-on interaction, as well as a thought process.
I couldn't click on the box, but I felt that the gro project was the most interesting because we were able to find the structure and function of an entire protein from a sequence comprised of four letters in a prescribed order.
the lab that involved looking at the recombination was interesting because it required an interpretion of the data and was directly applicable the material we were learning in class
I liked working with real specimens and to work on a real life project. The lac operon just fascinated me, though.
As much as I dislike the pesky little buggers, the fly lab was fascinating! In high school, I did the AP Bio fly lab for 2 weeks. At Berkeley I did a fly sexing and phenotyping. Here I actually had full access to a 2 month long fly lab! How cool is that?! The FlyNap is probably taking its toll on me now... ;o)

21h WorstLabs*

Serial dilution - waste of time and set up poorly. I think that the labs were generally set up poorly. Too many things were lost by instructors and TAs, the lab book wasn't clear, and I don't think that the materials were always set up correctly. My group (and many others)got extremely bad data almost all the time, even when several of us have a lot of lab experience.

These two are still quite good, just compared to the others, they took too much time, and outside -class time, too, and RELATIVELY, they taught us less things. Again, that's just relatively. By themselves, thefly labs were ofcourse very useful.

just too confusing - not enough instruction or prep work

I felt that the Fly lab was time consuming for a lab that was just about determining types of mutations, especially when we had already covered it extextensively in class. I thought the Agro project was a waste of time and I did not see the point in it.

Not a big fan of any of the labs.

serial dilution was boring and not an application of the material; pc-fly was never expalined and it was extremely difficult to figure out on our own-more time spent trying to figure out how to use it than was spent using it

PC Fly is outdated and a pain to run on my PC. it crashed frequently and did not help me at all. it was also very time consuming

These didn't seem to have quite the relevance to the course that the other labs did.

The fly lab was the bane of my existence. I didnt really learn much from the Agro project, given the amount of time I spent on it. PC Fly was not very well explained and so I didnt get anything out of that either.

PC Fly was a complete waste of my time. It was too picky and I didn't have then time to play with it. The agro project seemed unrelated to class. The other labs related, but this one seemed to be the least unrelated lab.

The virtual fly lab was a nightmare. To be honest, I thought about it very often and put a lot of work an d effort into it. When it actually came time to write it, I spent hours frustrating over it. I know I didn't do well. This is what frustrates because it took up valuble time that I could have been doing problem sets.

The agro project has the potential to be very valuable, but I don't feel as if there was enough connection with the lecture; I also felt as if we were kind of pushed out into a void and given very little guidance or advice.

I can't stand flies now. The fly lab demanded so much of our time that we felt that we were doing genetics 24 hrs a day, and although this may seem a good thing to you geneticists it can be a real burden when you have 3 or 4 other classes to struggle with as well.

i understood the principle- to get things down to a countable size and to get us using the lab equipment but it didn't seem necessary to spend an entire lab doing this.

I just thought the fly lab was really long and tedius. Giving us virtual data to analyze would have been a lot easier and more time efficient then playing with the real flies themselves. It would cut back on experimental error. THe PC FLy was neat to play with..but I couldn't get the numbers to work out at all.

I did not find any of the labs not-valuable, some of them I did not really like, like the serial dilution, but later in other labs, I realized the importance of it. I had comments about PC fly -- see the above box

PC fly did not have enough instruction. i felt lost and i missed the take home message.fly lab was too much time and not enough return. it was pretty interesting, but not that much. serial dilution was ridiculous to write up. there needs to be less write ups.

It's not that it wasn't valuable, but many problems arose as to group members not taking care of their cross and data being skewed because of this. Also, resulting from this, data became almost impossible to explain and have it make sense.

None!

I did not the point in doing both the PCFly and Fly lab experiment. There must have been a better way to set up the lab so that the students do not have two major things due on the LAST DAY of classes. I understand that we knew in advance but some people did not get results for the experiment (fly) until the week before it was due.

too much work for concepts I already understood - I wish it could have been shortened somehow - an oral presentation perhaps?

The fly experiment just took too long and did significantly increase my knowledge or understanding of Mendelian genetics. The grunge work of maintaining the flies detracted from the overall experiment. I'm sure I would have understood Mendelian genetics just as much if I had not done this experiemnt. Furtheremore, not enough instruction was given on how to use PC Fly to calculate map distances etc. Because I felt so unprepared, I was not able to understand that aspect of the experiemnt.

As apparent from my answer to the previous question, I believe the labs have been thoroughly refined so as to present a very different, and consequently valuable, take-home message in each case.

wasnt really taught. ??????????????
I felt as though I already understood the concepts and that PC Fly was more trouble than it was worth--like beating a dead horse.
just not worth the hassle that it was
i still don't understand it -- i had so much trouble trying to figure it out - i needed more instruction i think
This lab was pointless. It didn't help me at all to play with pipets. Also, we couldn't see anything interesting with these microscopic organisms.
none
I feel as if I sold my soul to Drosophila this semester. Any chance I can buy it back?
PC-Fly was very hard to understand and it just really annoyed me. I think that the program needs to be re-written so that it is easier to work with. I was really mad that i could only do crosses initially with a wild type and one mutation, because in lab we crossed a mutant with a mutant. Get rid of PC-Fly
I never really understood what was going on that well.
They were all valuable in their own right so I can't say that any lab was not useful/informative.
I felt that I did not take anything new out of these labs.
There was no direction given for the last lab. It was assumed that we understood what a poster presentation was. Please explain it better next time.
agro-didn't see any relevance to the course serial-no relevance pc-fly-only used to find map distance and already had to know how to find map distance to use program, many possible errors
The agro project just required a lot of time. I think if it was done earlier in the semester, then it might be more effective. The pc-fly program was time consuming and harrowing.I hated that program because it was just another thing i had to talk about in my paper.
The actual fly lab taught us how to deal with actual living organisms but our data was entirely skewed in most cases. there was a lot of error for whatever reason. I found P-C fly to be a lot more informative and valuable.
The PCFly lab, in my opinion was extremely frustrating. Unitl one was able to figure out how it worked, in my case approximately 8 hours or so, it was a severe source of frustration. Next time around there should definitely be more instruction!
WASTE OF TIME
i knew evertythign about it so I did not feel like we needed it.
not that interesting.
I did not understand how to use it at all
All labs, even though I liked some better than others, I felt were necessary and important
Serial dilutions were boring and not part of the material. PC-Fly was a debacle; no one knew how to use it, it never gave the right answers even if you did use it correctly, and I hope Y2K kills it.
Everyone knows by the third or second week of experimentation what traits are recessive and sex-linked, and what the progeny is going to look like. . . so the next four months of the lab are like a long drawn out . . . I don't know, really painful experience
-a lot of mess and confusion for a concept I could have learned better doing something else.
these two were just a pain in the butt, especially PC-Fly. It gave a lot of people more grief than satisfaction.
the agro project is a good idea but i dont think it sparked much interest. at least personally it didnt. maybe if there is some way you can incorportate personal preferrences into the whole experiment it would work a little better.
PC Fly was one of the most harrowing experiences of my semester. It should be eliminated from the drosophila lab. I think the agro project, although somewhat valuable, didn't generate as much enthusiasm as wanted/needed.
still didnt understand the point to this experiment
just going through the motions
the plasmid lab was very unrewarding
I saw little evidence of anyone around me learning anything from these labs. They still didn't know how to do it.
the regulation of lac was a combined lab between groups and it was the one i felt less confinden about understanding what was being done

Honestly, as much fun as research can be, a lot of people didn't put their hearts into the Agro project. I also felt I didn't have enough direction how to go about the project... For two weeks, my partner and I did research which in the end didn't help us too much. Maybe if the manual covered more of this...

22c LabConnection*

Seeing the gel and having to analyze it really made the concepts fall into place.

It wasnt bad.

I don't really remember

I thought this was one of the greatest things about lab-- labs corresponded very well to class. that was sooooo helpful1!!!!

practical lab techniques, great instruction.

Lab often helped me understand tihngs that I was confused about in lecture!

We were adding and centrifuing a lot, but I'm not sure I made the connections as to what was going on inside the test tube. Maybe if that was spelled out a little more clearly, I would have been able to follow along better.

I thought the labs worked well with the class. That doesn't always happen so smoothly in science classes. Everytime we seemed to be struggling with a concept in class, we would turn around and address the very same concept in lab. Specifically I remember being totally lost on the operation of the lac operon, and then we drew that very same diagram one more time in lab and it clicked. Connections like these really proved that the lab complemented the course material covered in class well. The isolation and characterization of DNA worked well in connection with class and really started us off on the right foot I think. It was useful because we were struggling with understanding these basic concepts in class because this lab required the first real write-up, we were forced to completely understand the concepts.

One of my biggest gripes is lack of communication. I had points taken off of my lab because I was unable to come in at another time to make it up (Hurricane cancellation). Guys, I have other classes in my major! Let's be reasonable

I never really got it.

I just have to comment on Dr. Lessem. She is a great lab instructor and was so willing to help us. She always wanted to make sure that we knew why we were doing a particular experiment. She was very accessible outside of lab, also, and just overall really helpful.

I don't feel I ever fully grasped the entire lab, like I did some of the others.

Yes, it was.

a.SOMETIMES

somewhat useful

i was able to understand the exact process invovled in cutting and isolation of DNA

The DNA experiment was cool....I'd done it twice before in high school and last year. If only our photo had turned out better... ;o)

23c WriteReports*

the first lab write up was not helpful in teaching me how to write a lab report, because I already knew how to do so

The lab write-ups were based on regurgitating simple facts right back to the instructors. Doing things any differently than in the lab book examples was punished. To me, this seems very out of place with the rest of the course, which focusses on independent thought and problem solving. The lab write ups did nothing but punish creative thought. They were nothing like writing real scientific documents. (Look at some of the upper level Chemistry courses for more effective ways of encouraging students to learn to read and write scientific articles.)

It is clearly useful to know how to write a complete lab report, Nevertheless, there were too many of them in the semester. You should hgave made more labs to be with a short report like lacI.

The outline presented w / lab 1 really helped to teach me how to write a report.

No matter how much I learned from the actual lab I never felt that I learned anything else from doing a lab write up. It was extremely frusterating to spend SO MUCH TIME on such useless assignments. I am slightly more knowledgable about how to write a lab report, but not enough to justify the time I wasted.

My labs, as much time and effort and sweat and tears as I put into them, were never "good" enough. I finally got fed up with them.

Might be that I also have never written college lab reports, and so felt very behind in knowing what to do. Comments on the handed-back reports helped the most in learning how to write; the questions and review concepts at the end of the labs also helped.

the step by step lay out of how to write a lab report was very helpful

the questions for the first lab were very useful. i actually used them in order to help me on structuring my second lab. i now feel as though i can write a pretty good lab report (though i still may be too wordy :) i guess what was useful was just doing them over and over although they were very tedious and tiring along the way.

I liked the question by question write up for the first lab..it was a good start to continue the semester on.

I liked the format set up for the first lab, and I definitely used those guiding questions in later labs as well -- I went back to that format and constructed my own questions that were similar to those questions, but would correspond to later lab reports

the serial dilution write up was a waste of time. i think the principle of walking us through what you expect in a lab report was extremely valuable, but the serial dilution was not the best example. you should have done that exercise with experiment 2.

The guidance given in writing the first lab was very useful and served as a catalyst in writing further labs.

Dr. Lessem has been great about helping me write my lab reports:)

Answering ?'s in order like we did for the first lab only confuses me. I tend to take more of a holaic approach with writing, concepts rather than particulars. I liked writing more from the specific points you put under each catagory of the lab reports for the following lab reports--i.e. what to make sure to put in the results section, etc.

The guidance in writing the first lab report was great. It really helped to have a simple flow chart to follow, questions to answer, and a guaranteed-to-be-thorough report. I think that by starting out slow in this manner, and working up to writing full (30 PAGE!) lab reports we were well-prepared for the work that followed. I would feel confident that I can write a thorough lab report now.

lab reorts arent a problem, i guess.

i think i basically knew how to do it before hand -- so just the basic outline was good

I feel like I know how to write a lab report, I'm just apparently really bad at it. I think it would help to turn in a rough draft on the first one to get used to it.

The first lab helped a lot.

If I never write another lab report in my life.....

your questions were a usful guidline. I don't like how you have to repeat results and stuff ove and over.

the first lab seemed somewhat redundant in the line of questioning. SOme things i would not have put in the section you had us. It did help ne understand though what went into a report and that was good. In bio211, we did not really learn what went into writing one of these things it was nice not to have to write a full lab report each time too! Thanks

My only issue with the first lab and lab reports in general is that sometimes I felt like I was restating myself a million times, but that this was required. For example, we were told to keep addressing our overall purpose in doing the lab (like in the results and discussion), when we already talked about it in the intro. I think that it is definitely important to address in the discussion, but in the results? Especially in the first lab, I just felt like I was answering the same questions over and over again, only varied slightly. But I can say that I did get a lot of much-needed experience in writing scientific lab reports.

I still do not feel comfortable writing lab reports.

Learned how to properly label figures and include tables and charts

I appreciated the criticism from my lab teacher becasue it really made me appreciate how much work goes into writing papers for publication.

a problem that I had early is that the labs said to refer to section IIb but every part had a section IIb so it was confusing

I have to say that it was sometimes disheartening to spend hours upon hours on lengthy lab reports that, in the end all labs combined would only account for about one third of one's grade. That made each lab report seem like an extreme amount of work for so little credit

dr. lessem was so much help!!

I thought I knew how to write a lab report coming into the class, but now I don't think I do. But I don't know what I could do to make mine better. I'm always afraid I'll write too much, write information that isn't necessary, but I end up writing too little.

I got the labs back too late to learn from the mistakes I made. I still don't know if I did things right.
C.maybe, but I definitley did not appreciate the amounts of effort given at the time
I know the componets but I still can't write a good lab report.
Yes, Dr. Lessem was awesome, she helped me out unbelievably
i thought so but obviously you didnt. i guess i have gotten a little better over the semester.
the questions were a good guide but each paper required different things...everytime i wrote i felt like it was to publish...they should be wrap ups of the experiment not a possible article for the journal
still having trouble formulating my ideas, but that is my problem
I felt that I got different instructions on how to write labs from 211 and 212 to 213, with regard to the desired content of the sections.
the first lab did help a tremendous amount in understandig what you wanted us to include, many times i refered backt to the outline for the reports
I feel I know how to write the lab reports....I know I can do better than what I turned in. It's just a matter of time and effort going into it. I definitely regret not going to my lab instructor with part of my report for critiquing.... I'll be doing that next semester in cell/molec.
Having the first lab write itself didn't really help prepare for the second because the material covered and the questions being asked were different.

24c LabPreparation*

simpler and shorter lab readings
Lab books were not very clear -- often there were changes between what the book said and what we actually did.
An explanation by teh lab instructor was always 100-fold better than on-line quiz or lab manual.
quick review at start of class
Generally the manual really helped to prepare for labs, sometimes a few details of the experiments were unclear.
Nothing. I just needed Dr. Lessem to explain it to me. She was fantastic.
Between all of the work for this class and my other classes, which I sometimes felt you guys forgot existed, being prepared for lab was the last thing on my mind. I did was was necessary, but never went beyond that for lab preparation.
talking about the week before in lab in more detail
Reading the labs and taking the quizzes really did an adequate job of preparing me, as well as the assigned outlines and flowcharts (when given).
the outline that we had to do before coming to lab made me sit down and really go through what i was expected to do.
like the class quizzes they were just another thing to have to do for the class but i probably wouldn't have looked at the lab so closely beforehand without them. i felt somewhat prepared for lab but concepts and procedure were usually so complicated that i always had my doubts.
Reading the manuel and the prelab lecture really solidified the components of the lab. Our Ta also was a great help in knowing and understanding what to do.
I did not like the outlines. Actually, I thought they might be useful if it was explained to us WHY we did them...
The quizzes forced you to try to understand the lab, allowing for you to come into the lab with greater confidence.
Usually I felt prepard for lab, but a few times even though I had read the lab I was still unsure exactly how to begin.
quizzes helped in the same way they did for lecture. usually felt prepared, always figured out what was going on after the short intro lecture by Dr. Lessem.
The weekly quizzes worked in much the same manner as those used in the lecture. I think the quizzes encouraged me to pull out the lab manual before coming to class and therefore I felt prepared. The quizzes were usually a piece of cake, directly from the reading. But, even so, the concepts were presented and I found it much easier to then sit down and address the tasks to accomplish in lab that week.
it was fine

not always prepared --didn't always understand it -- needed lab to help work through info -- can't suggest any better ways

I was always a bit confused as we started, but this happens to me in all labs. The manual helped by taking us by the hand and walking us through the steps.

I felt so, but the writing of the manual was "god-awful"

i made sure that i read the lab maual carefully and did what we were assigned the week before,like making a dilution scheme before coming to class.

I dont really know. I have never really understood any labs till i looked back on them and figured out what happened

I should have done more advance planning... nothing more on your part would have helped. I found the lab manual to be well-written and a good guide. When I made my pre-lab outlines, I just didn't devote enough time to thinking about what I was writing down. That's my fault, not yours. One suggestion...it would have helped to include in the lab manual or on the web page a little more info. about what we were supposed to do with PCFly. I felt that we were pretty much in the dark about a lot of it unless we sought extra guidance. I had to consult with my group members and/or Dr. Lessem.

There should be some time at the end of lab to talk about the next week.

I don't think anything could have helped though, you had to be there to understand.

telling us what questions we missed on the quizzes so we could see if we were prepared for class.

Everything was good.

If we knew what we had to do beforehand, ie, get a head up in lecture

-a short explanation at the beginning of class

a prelab email before each lab

Some labs (and concurrent quizzes) I was really prepared for. others required a thorough explanation from teh instructor.

lessem explanation were useful

the quizes seemed like one more thing to remember and the lab manual was the most benefical in all regards becaus of the lay out of a step by step process

Forcing students to do an outline was great....b/c we all had to have read the material.

More detail in the book

25c LabManual*

Yes, but the due dates were very hard to remember because there always seemed to be a different amount of time between completion of the lab and the due date of the lab report.

Useful, yes! But also confusing at times. I guess that's inevitable. Keep it up.

I thought that there could have been more information or examples on how to perform some of the calculations.(dilutions)

Yes. Clear and concise.

I dont think I ever read the boxes on the first page of each lab, but other than that I liked the manual.

Gave me a clear outline of what I was expected to accomplish and learn.

i really didn't pay all that much attention to the first page of the labs except to see what was due for each class. the content was fairly useful though it was sometimes kind of wordy in its description.

Sometimes the manual got wordy, but overall it was good.

Thought the lab manual was fabulous.

I thought the lab manual was put together quite nicely.

Everything is written clearly and concisely, with a few good jokes/comments thrown in.

The lab manual is impressive. It is apparent that a lot of time and effort has been put into that lab manual. It is easy to read, straightforward in the lab expectations an all-around excellent tool in the lab. The content told me everything I felt I needed to know to be successful in lab! Thank-you! (And, yes, I recall those boxes on the first page of every lab... they were a very convenient quick resource for preparation purposes. Nice touch!)

it really helped in writing papers.

Generally it was good--in some areas it was rather too vague, however.

Some parts were very clear (like background info) but a lot of the instructions left me confused about what I was doing and why.

THe sapcing or something needs to be better in the maual, or different fonts because it was swimming in front of my eyes sometime and was hard to follow.
I think in general it explained things fairly well.
See above....Also, I think the boxes on the first page of each lab were very useful summaries of what we were doing and what we were supposed to get out of each lab. I referred to them a lot.
I liked the summaries on the first page of each lab that told what you should be working on each day for the lab I feel that there could have been for information in the lab manuals specifically on the fly lab about the different mutations and chromosomal alignment
Yes.
Great lab manual, easily understandable...if only the text book were the same way
The content of the lab manual was, to say the least, very ambiguous. The procedures were not clearly laid out, and I feel that there was more confusing background information that did not reenforce the principles desired in lab.
Yes, i would have been even more clueless w/o it.
i like the outlines for the procedures
I loved how many concepts and procedures were covered. Previous bio classes had only procedures...I was following instructions and not always understanding and appreciating the labs. However, the FLY lab and the AGRO lab could have clearer instructions... Many students didn't know where to begin with those labs...
I was able to use it when studying for the tests aswell

26c LabWork*

Only because we were graded so strictly on format and answering specific questions rather than forming our own lab report.
The lab took up such a big chunk of my time, as big as two other whole COURSES taken together. Be it my major, that's a little too much.
for a class that is only worth 1 credit I felt that it was a ver excessive amount of work-and it was inaccurate when the lab manual said shortened time in scheduled lab would compensate for extra time outside of lab. I felt that i at least did the work equivalent to that of a three credit course in lab.
genetics lab has dominated my life for the past semester, and all of my grades in all classes have suffered as a result. Also, it is very unfair to overlap assignments to such a great extent. This was especially the case with the fly lab and the poster project
A bit heavy with all of the papers and the longterm projects that collided.
The assignments took me many hours to complete and sometimes the labs were a bit intensive and I felt I needed to rush in order to finish them in the alloted time.
Lab was usually a perfect amount of time, but those lab reports on the other hand... once again, I AM taking 4 other classes!!!!!
You guys need to lighten up in this area. Like I said, we do have other classes, which are just as important as this class.
this may have been the most frustrating part of this entire class. we devoted so much time to doing lab reports and coming in and following progress of labs, and all for practically nothing. the focus of the course should be the actual class, and i felt as if i was taking two classes and only getting credit for one!! i really was sick of lab from the get go.
but it was worth it..I learned a lot.
lab reports took forever!! (this right after completing the 30 pg fly paper of course :)
The lab was very work oriented. I did a lot for it.
lab write ups coupled with lecture work made this ridiculous. lab should be a 4 credit course
As far as work load goes, this lab should have been a class in itself. I feel as though I put more work into the lab than some of my other classes. Science classes should definately be worth more than 4 credits.
Lab required a great deal of work. More than the 1 credit hour that we get for it.
like I mentioned earlier - I think an oral presentation of the fly lab data would shorten the amount of written time spent doing it and give the same results.
I have never worked harder for any lab before in my life. I spent more time doing lab work than class work.
I SPENT WAY TOO MUCH TIME ON THE LAB REPORTS, especially to get the grades for them that I got!! Maybe I'm missing something, but I just don't understand that!

I always enjoyed lab. Dr. Lessem is a great lab instructor! (My Lab Assistant Greg was wonderful too!) I loved doing the experiments, learning through hands-on applications is one of my favorite things. Therefore, I had no problem with the time we spent in lab. I enjoyed every minute of it. Now, concerning the work load... considering I have just handed in a thirty page lab report!!!!! :) No, really, I think that the time I put in outside of lab to do lab write-ups and assignments was heavy, but not excessive. I always finished things without problems, but did put in a fair amount of time. Now, I am the quintessential perfectionist, and therefore maybe spent more time doing lab work than some people, but for me personally I think the work load was heavy in comparison to other classes I have taken.

i spent more time doing stuff out of the hrs of actual lab than any other classes combined. it was ridiculous. remember we do have other classes. thanks

I felt like I put massive amounts of time into smething I wasn't getting much out of, sometimes, as far as the papers go.

reports just take a long time to put everything together -- there was a lot of time put into lab -- having to come in all the time for fly stuff -- especially if there were problems with your cross

I can't believe how much time I had to spend on this lab. Especially at the end of the semester, I was completely overwhelmed. The fly lab took an absurd amount of time - coming in at 7 am and having to count flies everyday was difficult to work into my schedule since it had to be done so often. It was also ridiculous to have to write the huge lab report while trying to figure out all of the agro stuff. I understand the necessity for the fly work, but a balance is needed to allow students to work well and not go crazy doing so many things at one time.

How much was this worth?? Honestly, I did far to much work for the credit that I got. This was just crazy

I have a hard time writing papers in general though.

The time was a bit heavy because i feel like i waas always going in to count plaques or flies or something. Also the writing wasn't actually that bad if you dont include the hours of analysis that i spent. That is what drained me.

I say neutral for both 26 a and b because although lab reports were time-consuming, some much more than others, I don't think that a worthwhile genetics lab could be much different if we were to get anything out of it. The lazy part of me always likes less work, but the realistic part and the part that wants to learn realizes that a lot of time needs to be spent on lab reports if they are to be understood and analysed in-depth. Also, the labs we did were complicated and there were a lot of concepts behind them, but any good genetics lab would be like this, so I can't complain about the work load. The fly lab also involved lot of time outside the lab period, but it was such a worthwhile experience that the extra (and unavoidable, for this project to be a success) time in the lab was worth it.

I spent more time writing lab reports that I did on any other class, and I still wasn't successful with them.

It seemed an excessive amount for a one credit class. SOOO much out of class work was required.

It was ridiculous how much time was needed to write a lab report that would receive a good grade.

(See fly comment above)

i did not like how most of the lab work had to be completed outside of the lab. please take this into considerastion next time.

Maybe the amount of work that was necessary was the right amount to be able to learn the material well, but it was hard balancing the work for lab with other classes, especially when they were also lab classes.

I don't know if I possibly used my time inefficiently,, but I spent hours upon hours, up all night sometimes.

The labs were very long, but they were only once a week.

i think this one credit lab was more work than several of my 3 credit classes. writing the lab reports was the most time consuming part yet my grades were still bad.

the time spent was expected for a 4-credit lab. not too excessive, with the exception of drosophila which lasted into eternity.

TOO much for an undergrad...understandable if it was the only class but it wasnt..this class and lab discouraged many from a career in science

RIDONCULOUS (even more severe than ridiculous) are you kidding me? to even try to say that that lab was only worth an additional credit is asinine.

i think that the amount of time required to write these labs was more than it should have been, if there had been fewer full lab write- ups i would not be complaining, but the fly lab took up such a large amount of my time that it would have been nice if the amount of time i had to spend writning these lab reports had been less

Again, I know I could have put more effort into the lab reports.... it's a great discipline

27b TeamTeaching*

advantage--different perspective disadvantages--Jeff didn't know names, was too soft-spoken, and wasn't very clear

Ideally,in my opinion, this would be a very small class (less than 18) and one teacher who could give full attention to and be there every day.

Good to meet to different teachers. Bad that you have to adjust to two different styles. You are good!!!

bith had a very different teaching style from one another

I preferred one teacher over the other.

i hate team teaching

not necessarily a good thing, because on occasions there were contradictions between the two (when it came to advice and individual help). also, dr. elhai can be a bit obscure sometimes.

You got two different perspectives on topics and problems. SOmetimes answers to questions and expectations conflicted between teachers.

Brad was much more clear and understandable then Jeff. I got more out of his lectures.

two people with two different personalities...approaching the one that you feel comfortable with was nice

Variety in lecture; I think that each was able to teach what he liked/knew best. We benefitted the most. we also had two people to whom we could address questions. only disadvantage - when there was a mixup as to who was supposed to teach the next lecture.

the more minds the merrier. each person can add a little something different to the course.

I liked the team teaching thing. It was pretty good. WE had to professors to help us understand everything.

i dont think it helped or hurt the class. you both do equally as well presenting material. if i need help with a topic, i go to Jeff. if i need help witha problem, i go to brad. jeff needs to stop using that name sheet

Each teacher had his own way of getting concepts across to us. This was sometimes confusing, as they often said "well the answer could be this, but it could also be that"

I enjoyed the different teaching styles. Also it provided a greater oppurtuity to connect with a professor.

The two professors complement one another. ANd it seems that it takes a huge amount of time and energy to teach the course... therefore it must make it easier for both professors to teach the class together. This is one class in which the one on one student/professor interaction is needed.

I don't know if having two different people lecturing was an advantage, but having two people to go to for help was for me. a disadvantage was that it took me several lectures to get comfortable with Jeff's teaching style (although I eventually found it very effective)

Inconsistencies in class notes and study questions led to confusion.

You tended to complement each other, on the most part.

I enjoyed the team teaching approach. I think both Jeff and Brad are very competent teachers and each brought different views, experiences and opinions to the class. It intrigued me to observe how each taught the lecture class and handled review sessions. Jeff and Brad seemed to balance the actual teaching time very well, and I think that I gained knowledge from both! A key advantage was knowing that there were always two people who were available to help you out, and two people who knew what was going on. There's no way one single teacher could ever devote the collective time that Jeff and Brad put into this class as a team. I suppose one disadvantage was feeling like there might be some variance in grading and consistency. I didn't find this to be a problem though. I would think that in order to team teach, consistency becomes a primary concern. Well done!

i wont say because i respect the knowledge that both of you possess. but one is definitely a better teacher. that was teh only disadvantage. i agree you both are very knowledgable, but knowledge isnt easily conveyed. idont really like team teaching as you can see.

It was sometimes difficult to get used to 2 different teaching styles.

there was very often one of you available for help or questions rather than having to track down a single teacher

i think its biggest advantage is if you didn't learn well with one teaching style you could get help from the other who you could understand better

To me, it doesn't really make a difference to have one prof or two as long as the material makes sense. It was hard to get used to the differences between the two profs though - they were polar opposites. Brad seemed to explain things while Jeff took us in roundabout pathways to attempt to get at info. Brad

made sense and Jeff's methods tended to confuse me. If a balance there could be worked out, it would be a perfect system.
advantages-two different perspectives disadvantages-two different teaching styles, often two different answers (neither of which can be avoided)
I think you both are excellent teachers in different ways but i think some people could not switch their learning style back and forth depending on who taught.
No disadvantages- you both have different styles, but you complemented each other well and were equally as helpful in explaining concepts and helping with problems. Whoever I went to, I felt that all my questions were answered to my satisfaction and beyond. I have the same opinion about lecture.
One teacher was much easier to understand than the other.
the advantage for me was that i understood one teacher and didnt understand the other teacher. the disadvantage was that both sove problems differently.
The key advantages were that you had two resources to go to for help instead of just one.
It gave students two professors to go to with questions instead of just one, and also provided two different teaching angles
the teachers were a good team
there were more people to help out with my questions. sometimes the professors would contradict themselves and confuse me more.
If you liked one teaching style better or learned better from one professor than the other...
I enjoyed having different viewpoints on similar topics
Advantages: variety is the spice of life. Disadvanatages: incosistances within teaching styles.
advantages: two people to go to for help
2 different teaching/learning styles
advantages: different point of view, variety, different ways of describing same thing can help others understand disadvantages: hard to make transition, different styles of teaching, more interaction from one to the other
it was good because everyone could bounce their ideas off each other but then at exam time you were kinda left.
Irrespective of differing personalities, teaching styles, etc., I think having material presented by two instructors only adds to the already confusing topics presented in this class. In addition, the lack of consistancy between the two instructors (re: answers to questions) also contributed to this problem.
one was useful one wasnt
different teaching styles and personalities added the bit of spice that made a seemingly mundane topic exciting
I thought both professors did a good job.
a good change of pace, it made the lectures more interesting because we didn't have to listen to the same prof. lecture or talk for the entire semester, also the two of you work well together
we were able to get to different perspectives.
I liked the online aspect....the teachers and TA's were always willing to help. It was nice having multiple resources =)
Each teacher had a different way of putting things...if I didn't get it with one of them, I'd see if the other could explain it better.
The disadvantage was that you both gave different answers. So on a test I would not know which answer to put because I didn't know who would read the test

28 What'sHot*

I just feel like I learned everything on my own, which says that I can do the same in the future, but I think I could have been taught a lot more than I was able to teach myself had there been an actual lecture
It will help me to know what to expect if I take another course from Jeff or Brad.
Good - teaches real-life style of thinking.
i feel as though i was challenged to think hard and i know that i prob learned something - but it also made me realize that i don;t like genetics as much as i thought i did
I like that all of the notes and lecture quizzes were on the web.
I really liked the problem solving aspect. It really is my cup of tea and the fact that no matter how much you study it really didn't matter truely benifitted me. I'm the type of kid who crams and can't study

well until the day before and I make all B's. Since I was on an even footing with everyone else in regard to studying, I did a lot better.

I would never have expected to have been able to do and understand the problems that I have done the words i can casually use now are words i probably couldn't even have pronounced before

they only satisfaction i got was from receiving a genetic code and then figuring out what protein it encoded for and what its functions and properties were.

The course was more interesting than I thought it would be. I enjoyed it for the most part.

I think the problem solving approach will help me in the long run in approaching problems big and small. I think lab techniques and lab-write up skills have been greatly enhanced and prepared me for next semester.

I think the material was interesting, and it feels good to understand a little bit about genetics because it is such a hot topic.

I don't think that genetics will be much use in the rest of my time here. I like Dr. Lessem alot. You should try to incorporate her in the lectures. I like the web alot, it was really useful. I also really like your web notes, they were much more comprehensible then the book.

My problem solving skills greatly improved

I feel like I learned information that only a small amount of the population knows. I am proud of myself for completing a challanging class.

i cant honestly say how useful these experiences will be for me, although i will be able to look back whenever im frustrated with a future class, and say that its nothing like bio genetics

gave me a chance to look at researc opportunities and look into future cares related to biology.

Near future, it will help me understand and more easily get into the research that is being done here. Over the long term, I think that the ability to use basic information from a textbook and general concepts to solve specific problems will definitely enhance my efficiency in research, and ability to tackle hard problems.

I enjoyed the format of the class. It was a welcomed change having discussions instead of lecture. IT greatly increased my analytical skills as was expected and althoughi complained throughout about th ework load. it was very effective in achieving its goal.

honestly i feel relieved that all of that work is over (for now- cell molec starts us soon :) i also feel kind of proud that i survived as well as i did and faired so well in the course. genetics has taught me how to really work in a class (also how to really appreciate downtime :) over the long run i think i'll be able approach a problem and think about it more logically, hopefully to arrive at a conclusion.

I feel that I really earned the grade I am getting...I wish it could have been higher, but I put a lot of work into it, so I am proud of that

genetics is the wave of the future. this course has made a much better scientist, researcher, thinker and problem solver. i feel much more comfortale reading primary literature and analyzing data. i like the topics we covered and class discussions were very interesting. this class would be a great class to audit so you can listent to the lectures and interesting topics, but then yhou wouldnt go throught the pressure of studying.

The experiences in Genetics will apply to all other aspects of learning. I find normal problems simple in relation to the problems I solved this year.

The class really stimulated my critical thinking. It made me realize how everyday problems can come about and how we must approach them to solve them.

I want to become a MD. I feel that this course has helped to look at problems and figure out what went wrong. This is similar to what doctors do. Also I feel that the difficulty of this course will make some other courses seem not too bad.

I will not be as intimidated by a seemingly difficult problems. I can now sort my thoughts and dig a little deeper for answers.

my problem solving skills have improved a lot I have learned how to think like a scientist I have learned a great deal about genetics - sounds obvious, but I've already had instances outside class where this has come up.

It was definitely a challenging course and I feel proud to have accomplished so much.

I think I've learned a bit about concepts that have looked Japanese to me in the past.

I made it through! I made it through... with an incredibly expanded mind, capable of thinking critically and applying knowledge to the strangest of circumstances in order to present a one possible solution.

i must say the experience no matter how crazy and difficult at times, was a good one. i can continue life knowing i conquered something most people never will well at least i hope i did. problem solving has never been one of my strong points but i defintely have become alot better.

I think that the course made me learn a lot of what I might not have learned as well otherwise.

an overall interesting course for any student. a bit challenging at time, but the teacher's are more than willing to help the students with their problems

i think working through problems is the most important thing taken from this class -- at the end when we were doing this little exercise i really realized how much i had learned and how much better i was at calling upon that info to come up with answers to problems -- my favorite thing was the lac -- because it was a real spacial thing i could actually picture what was going on -- none of that likelihood stuff

I learned how to think in this class more than any other. I'm still not perfect at it, and I still get very confused, but these skills will carry over into other classes. Learning how to deal with a large amount of information and applying it was my most beneficial aspect of this course.

I learned how to problem solve.

Lac was an interesting topic

i really really liked doing the group problem sets on Mondays. I was able to make everything come together by doing them. THey should stay.

I fell satisfied that i'm almost done and i am passing for credit. It will make me appreciate classes that are not really as difficult and time consuming. I found also that i can find solutions to problems when i have to.

First off, I just want to say that I'm glad you put together this questionnaire b/c I wanted to comment to you both my feelings about this course. To be honest, when the semester first started, I formed a lot of preconceived opinions rather quickly and unfairly. I thought that this course was all going to be on the computer, that we were going to teach ourselves most of it, and that we were learning more about problem-solving skills than genetics. Now I realize how way off and unfair I was (actually, it didn't talk too long into the course for me to figure it out, but I have just come to a complete change in how I view the course that I really wanted to get a chance to express it to you both). I learned more about genetics that's really worthwhile that I think I would have had the course been just lecture with one-hour, multiple choice/fill in the blank/essay/memorize the book tests. The problem sets and format of the exams were so much better for teaching us real genetics, b/c so much of it is problem-based. And the learning of the concepts is inherent in doing the problems. It gave me a real-life look at what geneticts are actually faced with, and I can't tell you how valuable I have found this course. I have never taken a course that's been structured like this, and I originally ,ade judgements without giving it a chance, and I don't think that you either could have structured the class better (other than providing more structured, in-class time to go over problems, like maybe going over them like you do in review sessions during class). So although neither of you ever knew it, I almost feel like I should apologize for forming a negative opinion before giving the class a chance. I really enjoyed the course and learned so much. Other than the actual genetics, I have learned ways of approaching a problem that I know will be useful to me in the future. As a bio major, I know that I'm going to be involved in scientific studies for the rest of college, and this course has given me insight towards how to approach them.

I found a lot of the information to be very interesting. I think that in the long term, I've learned how to pick out what's important for studying, instead of going through and trying to learn it all, because there is just way too much information.

that i tackled the problem sets successfully.

It will help me better write lab reports. it gives me confidence that if i can get through this course, i can get through any.

To some degree I feel that the problem solving was helpful. I feel that my problem soving skills have improved but still need alot more improvement though.

I think that I will benefit most from the problem solving based curriculum. I think that way of teaching and testing is much more valuable than memorization and the like.

I will apprecaite the other classes more

I enjoyed some topics very much and enjoyed them throughly

the lab reports will help me with my future.

The class helped my analytical skills. It taught me that even though there isn't always a concrete or correct answer to a problem, if I stated my case and supported it correctly with the right material, I could get the answer right...or succeed in solving the problem.

Genetics is definitely the area of science I enjoy most. I am glad I had the opportunity to take this class. I thank you for your effort.

Lots of work, but rewarding. I learned how to approach problems well and gained some confidence about big tests.

I liked the subject content of the course. But the workload really turned me off. I'm kind of bitter towards my fall semester sophomore year experience

You are taught Mendelian genetics and Hardy-Weinberg Equilibrium very early on. Now I actually understand what they mean, using everything from the course.

I thought lab was great except for the lab reports, way too many of those.

i guess i learned a lot about just sticking with a problem and trying different approaches. i also thought it was very useful that we were allowed to use open book because this is the way it will be in real life.

problem solving strategies were honed to some extent through this class, and I believe this sort of methodolgy might prove beneficial down the line @UR

i know how to write a lab paper sort of

learning how to SOLVE problems..not just being given the answer straight out

It help me further develope my analytical skills. Any problem can be solved if you pick it apart and work from the outside in.

I'm DONE!!!!!!!! As I said, in retrospect, I feel educated and some sense of reward from finishing. However, I can't think of many things that would entice me to take it again.

Look above.

i think i won't realize how much i learned for a while, later down the road i will most likely be thanking you for teaching me how to really solve problems

I am hoping maybe to do more research like the agrobacterium project . THe labs were useful because they tied in the lectures.

I really feel I've worked hard and understood what I've learned. I'm not memorizing to answer multiple choice tests...I'm practicing applying my knowledge and strategies on these exams.... However, those exams WERE HARD!

Genetics helped to think in a different manner

29 What'sNot*

I just feel like I really didn't learn that much new material, I just learned how to do probability and statistical analyses. I don't find this particularly useful because I don't plan on being a geneticist in the future

I don't feel like I know much about actual genetics. I think that this will hold be back a lot in future studies. I'm very dissatisfied with the class size. I came to UR for small classes.

See above

i feel as though i put so much effort into the course and didn't gewt much out of it

I feel that the work load was a bit excessive at times.

I hated lab. I felt like I knew everything and got raped on my papers by Dr. Lessem. Lab should be a supplement not a struggle.

evrything was open note-so i never had to really memorize important terms and concepts-the mcats aren't open-note; how am I going to remember all the stuff I didn't have to learn for this class

this class dominated my time and thoughts throughout the semester at the cost of other classes, and i do not even feel that i did that well in this class or learned a great deal. i fear that the effects from this class may prevent me from ever entering med school

I do feel that some information was extremely rushed and it was not fair to us, as students, to be handed such great information, that has taken years to fully understand, to understand in A FEW SHORT WEEKS.

I still feel like I don't have the whole problem solving thing down. I also feel like my time and effort does not show in my performance in this class. Effort should count for something.

The lab reports... what a waste.

Lab drove me nuts. Something needs to be changed there. I don't know where I got the energy to do all of that work

not really knowing any of the answers- just guessing

I thought lab was very frustrating. I spent almost as much time on lab work as lecture. This is not the way it is supposed to be as a 1 credit part of the course.

the work load, i found mysefl doing more than 3 hr. of genetics everyday for either class or lab. Had it been a 6hr credit maybe it would have been easier to habdle.

I think that I always gained a little bit of knowledge or new talent in problem solving from everything, even when I felt absolutely hopeless. Struggling through tests and problem sets at least gave me a sense of completion, if not a sense that I conquered the material.

THE FLY LAB SUCKED!!!!!!!!

the work load was extensive. lab alone could have been another class. this class surely is worth more than the measely four credits we recieve for it. because of the amount of work i had to put this class first, which made all other classes secondary. i couldn't devote as much time to them as i would have liked to because genetics monopolized my time for the most part.

It was a lot of work... that was kinda bad to.....but at least I feel satisfied

too much work between lecture + lab. there needs to be something done abou that. problem sets need answers or outlines. calling on people needs to be changed in some way so that people like me dont feel intimidated to attend class if we didnt get to read much teh night before

I thought the work load was a little excessive, but other than that it was a well prepared course.

I guess all the time I have spent stressing about this course, but that is more of a personal thing. I felt like there was always too mush to do and not enought time to do it, but it always got accomplished.

I felt like I was reaching out into darkness and didn't feel very stable much of the time.

I feel that there should be some time spent in class going over the problems in the problem sets outside of the groups randomly selected - I don't think I always got the most out of the time I spent with my particular group on those days.

The exams were extremely difficult and I don't fell that I ever truely understood anything about them. I don't think I could explain problem set questions to anyone.

I CANNOT SOLVE YOUR PROBLEMS TO SAVE MY LIFE!!!! I put sooooooooooooooo much effort into this class that my other classes look like a fun pasttime, and I still don't see any results with improvements in my grade/ or improvements in my understanding of either of your problems in the problem sets and the exams!

Ha ha! What do I like the least? That would have to be the fact that YOU GUYS WERE RIGHT! :) It's crazy, I can still remember sitting in class earlier in the semester (probably immediately following exam #1) wondering what I had gotten myself into. I remember telling my parents that if anything were every going to drive me to begin drinking, this class would be the culprit! You both kept saying we would appreciate the course in the end, and that it would all be worth it, etc., etc. Well, I didn't want to believe it, and I know there is still one exam left to go, but I think that it has proven to be true. I have learned more from this class than any science class I have take previously. And, it is not so much the knowledge (although I did retain plenty of Genetics knowledge, don't worry!) but more what I have learned concerning how to process challenges, and work through problems, and think critically to present possible solutions which amazes me. This ! is quite a unique class, and I fear it will have lasting affects here at UR as I face future science classes and on a broader scope as I address scientific challenges in my future.

feeling at times like i was stupid. confidence is a big factor in this course. if you think you know it you probably do, and vice versus. at time sit killed my confidence.

I feel like I spent more time on it than anything else this semester, and I am exhausted.

i still don't understand probability -- i still don't think i could solve a problem like that -- but that is just my own inability to grasp the concept

It was almost too abstract. The tests and prob sets seemed to stray from factual info. I know this was the point, but factual info is needed in the background. I felt like concepts were very up in the air. Nothing was concrete, and that made it difficult to be satisfied with results.

The class was taught so differently from other classes, I found myself getting so frustrated a lot. It is difficult when you can't really find a definite answer. I just found myself so frustrated.

Lab and workload

I am disappointed in myself that i did not go in for more help during office hours, but that is my own mind telling me i can do it on my own

I feel like i didn't devote enough time to my other classes because i was always doing work for this class.
nothing comes to mind
I don't feel like I was prepared to take this course yet.I was very intimidated by the information.
i am not really sure that i learned anything.
I did not like the amount of time I had to put into this class. It was ridiculously excessive!!
my grades. i hwas hoping that i would do better in this course becasue its under my major. thats what bothers me the most. i was stuck in a rut of getting round aobut he same grades on the exams when I felt that I was pretty good at solving the problems.
The course was a little intense. I have to say that I really enjoyed the class, but sometimes it was a lot to stomacha along with all the other courses that we students have to take as well. If we could take genetics in the May term setting, without other distractions then it would be most beneficial, however when thrown in with other courses in became a burden at times.
I liked the material of the class, and even the whole set up of how the class was taught. But when we were given the problem sets, they were too hard for one person to figure out alone. We did not have enough information to actually do the problems. The tests were excessivly hard and time consuming. LAB WAS TERRIBLE FOR THIS CLASS. I HATED EVERY MINUTE OF IT. I DID NOT FEEL LIKE I LEARNED ANYTHING IN IT AND IT IS GOING TO BRING DOWN MY GRADE SO MUCH.
it was good topics but the course was so in depth that sometimes I felt everything was way to abstract for me to understand
how much time i spent on this class alone and i will only get a B. i had other classes to think about too.
Nothing in the course...I wish I had been able to spend more time on this class. I got a lot out of it, but I think I could have gotten a lot more had I had or put in the time.
I put so much time in, I don't know if I've really learned a lot about the subject.
I'm not a bio major anymore.
I feel frustrated leaving the course, because I am not sure I fully understand everything and I am still flustered from that Fly Lab report!
daily quizes,
i jsut thought the amount of time that we put in was a little excessive for one class. we all do have many other classes to worry aobut too.
knowledge of concepts. I feel that I have a very quasi-understanding of important topics of molecular genetics and development. This lack of factual understanding will not help me in the future.
everything else...problems, lab papers, teaching and class material
I didn't get too much out of problem set days...my group never did them so the time was kind of wasted..though it was our own fault
The course work for both class and lab were a bit excessive, especially when health was compromised.
I didn't sleep very much this semester as a result of this class.
"
i hated the fly lab, it was the worst thing and i wish there was another was to do the same thing without having to deal with those creatures. i did benefit from the genetical aspect but the flies out stayed their welcome
THe exams were a bit exhausting.
It would have been nice if you'd make a booklet of notes, rather than having all the students printing every other night. My poor printer! ;o)
The work load and the grading is what hurt me this semester

30 BradAdvice*

Work on listening to what students are asking, and think about why they are asking. Are they confused? clueless? frustrated? (homicidal?)
if possible, try to slow down in explaining things
none in particular
None.
You need to be a little more open to questions. You sometimes seemed put off if a student didn't understand something...even if it is an easy concept or question. You also need to be more direct in your answers.
thank you :)

nope
GReat job BRAD. keep up the good work.
thanks for all of your help and patience :)
thanks for being available for problem sets.thanks for your commitment to education because i am sure that you could earn more money at a biotech company you are too smart
Thanks for a great semester. It was tough but well worth it.
I really enjoy your "question" mode of answering questions. Although at first it really frustrated me, I soon found it very helpful to my learning how to think.
I liked your style of teaching quickly and to the point. Time was not wasted.
Thank you for all your help during office hours. You are very patient.
Try to make yourself more approachable to students and less condescending about an apparent lack of understanding / lack of knowledge on concepts. I think you have improved on this over the semester, but many students (including myself) talk about how this condescending approach to some students scares them away from asking you questions when they really need help!! This is bad. Please work on this--I know that you are a great guy and that you are very intelligent, but we just want to learn. Help us get there (without negative comments.) Also, Brad---GIVE LAB REPORTS BACK IN A MORE TIMELY MANNER!!!!!!!!!!!!!! Students could have benefitted from comments earlier on in the semester when they actually had lab reports to still turn in. Now, it really makes NO DIFFERENCE!!!
I think Brad is a very good teacher. I kept finding myself tempted to shake him after he answered my question with a new question for the seventh time. :) But, in retrospect I appreciate that he wouldn't always tell me the answer. I think I've come to realize that it is the really good teacher who can make the student see the answer for him or herself by redirecting a question.
brad you are amazing. you are a very smart man. you called on me alot and i hate dit it but it made a difference. keep it up. you are a really good teacher and geneticists. i know one day you will make a difference.
Very dedicated excellent teacher. His teaching style more fit my needs. He was always receptive to our questions and always willing to help.
please see #28
The review sessions and your way of teaching was very clear and understandable!!
He was very useful and explained the material extremely well
brad was a good professor.
He was very good at leading the entire class.
You're an excellent teacher and I've enjoyed being a part of one of your classes.
No, just stay the same, enjoying to teach.
Brad was very good in answering questions on an individuals basis- always up to helping. Try to answer questions directly however during lecture.
Very helpful
good job, thanks
this is not our whole life...it was a class that was taking for a requirement and the experience discouraged many from any field of genetics
You have a strong voice, be proud. It was a pleasure to attend your lectures.
Good job
"
Your office hours were very helpful! When I studied for exams, sometimes I found your notes more full of practice questions. Could you in the future add more description for the material? Ex....I found the micro / minisatellite topic difficult in the book, and the notes from lecture didn't help me much there... But in the big picture, I really felt I learned a lot in this class. Thanks for all the help!
Brad was understandable but rambeled a bit too much. Very amiable and nice however and also did not try to make you feel dumb

31 JeffAdvice*

Work on simplifying answers to students -- work to bring material down to our level.
spend more time on lecture material, not on the seating chart
if possible, try to talk louder
none in particular

None.
We're not as smart as you, or as well-versed in the area of Genetics, so please remember that you need to teach down to our level a little more.
You seem as if you need to get a little more organized. That might help the understanding level of your lectures.
thank you :)
nope
KEep up the good work, your funny comments were great comic relief.
ditto!! :)
thanks for being available for problem sets. thanks for you commitment to education because i amsure that you could earn more money at a biotech company you are too smart! stop using that name sheet.
Very good patience, but at times you try so hard to not tell us the answer to a question that it becomes confusing
Don't focus on the seating chart so much in class. It takes away from teaching time. But thank you for your knowledge.
I also ejoyed Jeff's more relaxed mode of answering questions.
I liked your analogies and humorous writing style. They made me laugh more than once!
don't be so picky about the seating chart - let people sit where they want and call out random names from the list or point to people until you've learned everyone's name.
You have a great sense of humor. I enjoyed your lecture days.
Try to be more concrete when answering ?'s of students on difficult concepts. You tend to make things more difficult by giving more scientific-specific answers to these really difficult concept questions--not always, but most of the time. Sometimes I just sit there I get really lost when you are explaining something. Maybe it is just me, but I have a feeling it isn't. Try to think of a way to make an explanation as simple as you possibly can, and then build on it from there, I would suggest, depending on the reaction of the group you are explaining to. I think you are better at this with some concepts than with others, so just focus on bringing yourself back down to the undergraduate student level so we can understand such a knowledgeable guy as yourself. Personally, I find you explain things much better one-on-one.
I also think Jeff is a very good teacher. I think that he has a gift for being able to sense when people are confused and then he is willing to take the extra time until it is clear. I really appreciate all of the time he spent with me working through the problems I had difficulty with. I know I had trouble seeing the solutions to problems sometimes, and Jeff took the time to spell it out for me several different ways until he could see the light bulb flicker.
jeff. you are very knowledgable. i must say however that you dont really succede in conveying that knowledge. at times i didnt understand you during problem sessions and during class discussions. and you also need to be more personable towards your students. like learn more names.
Different than Brad, but still very dedicated. I foun that he was the best in smaller groups. He helped me and my group with a lot of our problems. His power point presentations were excellent.
I think that when you are explaining things one on one, you go further back than square one and that is confusing. I know that you want us to understand for our selves, but some day when i went for help i just wanted a straight answer and i felt that i had to answer a million other questions before we got the one little thing i was having trouble with.
please see #28
please learn people's names.
He was very good on a one to one basis or in a small group he was an amazing teacher but I do not think that he is very good when in a large crowd
speak up please other than that a good professor.
I think he's a great teacher when it comes to smaller groups. He's great at explaining the problem and leading us towards the answer, not just giving it to us. He's there to lead the problem solving but makes us solve the problem ourselves. In a big group though, like when he led the entire class, I found him a bit confusing sometimes. I don't know why that is though.
You are a genius. Too smart for me most of the time. but I love your endurance.
No, just try and relay the concepts better.
jeff, I could never hear you during lecture, you seem to mumble a little.

even though a different style, I thought it was still effective way of teaching (but more difficult to approach) good job, thanks

stay focused when teaching..same as brad...Genetics makes me cringe

Your a brilliant man, it was a pleasure to be taught by you, even though I really couldn't conceptually understand half of your lectures

Good job

"

Your notes are long but with good intent. I found it overwhelming at first to read them the night before class, but looking back, I really do appreciate them. Thanks so much!

Jeff was a little more difficult to understand but he was good. He is very intelligent and thought that some of us were at his level. Jeff also was extremely nice and cordial and tried not to make me feel dumb

32 MiscComments*

At the beginning of the year we were told that the study questions would be basic questions that come right from the notes or reading, just to make sure we're following along. By the end of the year, they were just as difficult as the problems sets - and took almost as much time. If that is the goal, be upfront about it at the beginning, or else evaluate the sq's and see if they can be simplified. (Remember, we don't have a whole day just to work on them every week -- just spot lectures during class.)

In general, I liked most things you did - genomics poster was very useful! Good luck to you all and keep up th eexcellent work here at UR.

I do not feel that the whole "problem solving" aim of this course worked. I found it more frustrating than helpful. Also, I do not think that genetics should be required for the biology major.

None.

This survey is yet another example of how you guys seem to think we have unlimited amounts of time to spend doing genetis assignments. Please try to be a little more realistic next semester for the sake of your future students.

YOU two make a great team (BRAD AND JEFF) you both obviously have a tremendous love for the subject and i felt that you hoped that we would ultimately share the same passion for genetics.Although I haven't reached that level yet i enjoyed having classes with you especially because of your truly down to earth nature. your comments are always amusing and a pleasure to read. keep up the good work b/c you make this difficult topic seem very easy.

dr. lessem has been extremely good at connecting lab to lecture.

I wasn't able to choose more than one topic where it suggested that you could. Other than that, everything is great.

Without you all your help (Brad &Jeff's) this class would have been a nightmare. I think it is awesome how dedicated you guys are to helping students. I cannot remember a time that I asked one of you a question and you would not help me. Merci beaucoup! On another note the amount of work for the course (in my opinion) equals that of a 6 credit hour course. I don't know if you all have anything to say about that, but I thought that I would mention it. I believe that the amount of work is necessary to get "something" out of the course.

I wish I had more time to spend on the problems. The class was very well organized.

MORE SUPPORT FOR THE BARELY-KEEPING-THEIR-HEAD-ABOVE-WATER group---extra credit, more opportunities to see if prob. set answers are correct (see answer for ?12), TA's that REALLY WANT TO HELP you, rather than just give you the answers to the questions so they can go home (that DOES NOT HELP!! Seriously check into this!!)... Also, I believe Paula Lessem is to be HIGHLY commended for her effort to help students she didn't even have in her labs!! She was very helpful for me--both for understanding lab stuff and for understanding concepts for exams/class.

I think I've written a novel, and have probably said plenty. :) I've cleared my mind of everything I wanted to say about the class. I hope some of my feedback, and the feedback from other students is helpful! I'd like to see this class do for future students as much as it has done for me.

overall. ok class. the work load was excessive. cut it back alittle. i promise the grades will reflect. continue to challenge. it helps. i feel now that i can face the biggest problem, of any type and i can give it my best shot. before this class i couldnt say that. all of my comments are true and non-biased. thanks for the experience. bye.

This is a course that is supposed to interest people further in the study of biology. Instead, we're all weary, beaten and scared beyond all belief about the grades we're going to have to try and explain to ourselves later. Honestly, some sort of compensation of grades would be nice for the hell that I've endured this semester

Genetics was one of my favorite classes this semster and much more fun than bio 211!!

nope...ok, just one....yeah for Christmas break!!! :)

I know I criticized a lot about the course, but I think it was well taught, and for people who were able to comprehend the information, it was a a very valuable experience.

I think classes whould be way smaller it ould make us all work harder and enjoy class more

none

None.

I admire you guys for being so dedicated to improving your course, however I feel that somewhere in that translation you felt there was a need to give a ridiculous amount of work to your students in order for them to take the class seriously. You guys really did teach the class and assign projects as if genetics were the only class we were taking, which was really aggravating, because I always felt behind.

nope

powerpoint slide presentations were a great addition to the class, esp. putting them online.

Its been real! Peace out!

Shout it from the rooftops, as of tomorrow by at least 8 PM, I will be able to say, "I'm done!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"

"

HAVE A WONDERFUL CHRISTMAS BREAK!!!!$$ Good luck with all your research!