

**CHEM-643, Intermediary Metabolism, Fall 2008**  
**Final Instructor Evaluation - Numerical Responses**  
**HAROLD B. WHITE – Instructor**

**QID 3425 - The instructor demonstrated thorough knowledge of the subject matter.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	0	0	0	5	33	38 / 40	4.87	0.34
Percent	0%	0%	0%	13.2%	86.8%			

**QID 3426 - The instructor presented the materials in an interesting way.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	1	2	4	13	18	38 / 40	4.18	1.01
Percent	2.6%	5.3%	10.5%	34.2%	47.4%			

**QID 3427 - The instructor encouraged class participation.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	0	0	2	8	28	38 / 40	4.68	0.57
Percent	0%	0%	5.3%	21.1%	73.7%			

**QID 3430 - I would recommend this instructor because of his/her teaching to others considering taking this course.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	1	3	6	11	17	38 / 40	4.05	1.09
Percent	2.6%	7.9%	15.8%	28.9%	44.7%			

**QID 4332 - The instructor's lectures were well organized.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	0	0	5	13	20	38 / 40	4.39	0.72
Percent	0%	0%	13.2%	34.2%	52.6%			

**QID 4333 - The instructor was helpful if you sought help outside of class. (Don't respond if you didn't.)**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	0	0	1	10	22	33 / 40	4.64	0.55
Percent	0%	0%	3%	30.3%	66.7%			

**QID 4334 - Overall, the instructor was effective in facilitating your learning of the material in this course.**

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale text	1	2	3	4	5			
Scale value	1	2	3	4	5			
Total	0	1	4	14	19	38 / 40	4.34	0.78
Percent	0%	2.6%	10.5%	36.8%	50%			

**QID 4648 - I would recommend Dr. White as a teacher to other students**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	1	1	3	15	18	38 / 40	4.26	0.92
Percent	2.6%	2.6%	7.9%	39.5%	47.4%			

**CHEM-643, Intermediary Metabolism, Fall 2008**  
**Final Instructor Evaluation - Narrative Responses**  
**HAROLD B. WHITE – Instructor**

**QID 3435 - Comment on the instructor.**

Responses (29 of 40)

- Dr. White clearly cares about his students and their understanding of the material, rather than route memorization. He works very hard to make his courses both accessible and challenging to all the students who take it.
- Dr. White's door is always open, and he is always willing to sit down and discuss with you any homework problem or assignment. He's also approachable, and you can tell that he is invested in making students LEARN material instead of memorizing.
- Dr. White is very organized and wants to help students really understand material, instead of just memorizing information. He is very approachable and always friendly.
- Dr. White really cares about his students. He also expects a lot out of them. He goes above and beyond to learn about each and every one of his students, and you can really tell he loves what he does.
- Dr. White clearly put much thought into his instruction, and structured it carefully to facilitate the most learning from his students. He has a great understanding of a broad range of the material, which is evident in his instruction and ability to resolve students' questions.
- Dr. White was very helpful, knowledgeable, and always very friendly. A tremendous resource.
- Dr. White does a good job with presenting the material. I just think he requires too much material for the semester.
- He is extremely knowledgeable on the topics covered in class, as well as many other things. He is always willing to help students in any way he can. He tried to present the material in an interesting way, through various case studies, and for the most part succeeded.
- Very knowledgeable, and had a very interesting way of presenting material. Got the class involved as much as possible.
- Although the class was challenging, I definitely enjoyed the class and learned a lot of interesting things.
- Cares about the success of his students and knows the material better than I'd even expect from a professor (that's saying a lot).
- Professor White demonstrated concern and a sustained effort to provide a very helpful class.
- Professor White was very knowledgeable of the material and was always available and ready to give help outside class. His collection of books in his office was always open to students' needs.
- I believe that the PBL learning method is excellent because I learn more than I ever could sitting in lecture and taking notes. The instructor presented the material in a very interesting manner and the final case study made my students was the best way to end the course.

- I was kind of surprised by Dr. White with this course. Having taken Introduction to Biochemistry with him I expected more of the same, which I wasn't looking forward too. However, this class seemed good. I think the material was more interesting and I felt like I was more comfortable talking to Dr. White in general. I liked that he was helpful and could talk about metabolism, but that we could kind of joke too.
- Dr. White was very active in this class despite lectures not always being the main method of teaching. He was always available and ready for questions. He knows so much about everything!
- Dr. White expects a lot from students but he also helps in class/out of class whenever you have questions. His lectures were interesting in the first half of the semester. Dr. White demonstrated a great knowledge in CHEM 643.
- The problem based learning, I believe, is not an effective method of teaching especially a class like this. I believe in this class there has to be some textbook with assigned chapters to read over.
- Professor White is extremely knowledgeable in his subject and thoroughly encourages group participation and working through the problem. He focuses not on memorizing the information but rather that the student understand the information.
- Patient and helpful
- Dr. White is one of the few professors in the chem/biochem department that truly cares about his students. He was always there for me but never just gave me the answer. He always challenged me and I got much more out of the course because of it.
- Dr. White is very knowledgeable and creative. I enjoy his lectures because he is aware of how long it takes us to write stuff down and how it fits on our notebooks.
- He pushes students out of their comfort zones.
- I enjoy the PBL format, and Hal White teaches using this format very well.
- Very approachable, his door was always open. He helped, but only enough to get you to figure problems out yourself.
- Dr. White presents the material in a very interesting way that is both applicable and challenging to students. I am a strong fan of the PBL method of learning and I appreciate that the class was taught in part lecture and part case studies. Dr. White always has his office door open and is very willing to talk to students, although I think that the week before the case study was due he may have gone hiding to escape the constant barrage of students into his office
- Prof White did a good job implementing a mix between traditional learning and PBL style learning. He always made sure the class was involved in discussions, and kept people awake and interested. Some times the material got confusing, but with the difficulty of the course and the interrelated pathways involved i feel he did the best job possible on some of the harder topics.
- Dr. White cares about his students learning. Rather than just presenting information and expecting students to pick it up, he takes the time and effort to challenge you to learn. I appreciate Dr. White's willingness to help students inside and outside of the classroom and continually recommend his courses.
- Dr. White presented the course material in a manner that challenged students to critically analyze the course material and come to their own conclusions. His mastery of the subject is outstanding.

**QID 3609 - Identify or describe some way(s) that Professor White could improve his teaching (and your learning).**

Responses (31 of 40)

- Try and enforce the attendance rules that were present in CHEM342. Not having a consistent group made assigning "homework" tasks for the in-class group assignments pointless.
- It's difficult sometimes in Dr. White's class to know if what you have been studying is the level of understanding that he expects students to get out of a problem/case study.
- It would be more helpful if the educational objectives of a particular case study were given to the students. I know that for a couple of problems this was done, and it really helped. It would be helpful if specific pages/sections of the book would be provided to guide students on where to start the reading.
- During group work on the case study Dr. White goes around to each group and asks questions about what each group is discussing. I think it would be beneficial to students if Dr. White tried to guide groups in the right direction if they have been off track for too long.
- Biochemistry and metabolism are both very broad subjects (and intimidating for the student). This course is designed to outline important underlying concepts present throughout the subject, but at times it can be difficult to realize what is a rule and what is an exception to the rule. In other words, it would be very helpful if the most important and universal concepts were addressed as such. At least for me, this type of contextualization is crucial.
- None I can think of now.
- The lectures that he gave were quite confusing. I appreciate him using the chalk board and writing it down as we go along however the notes tend to get a bit jumbled and confusing.
- I think he could give a wrap-up lecture at the end of the case studies, as a way to give an overview of all the material learned during the study. It would be a nice supplement to the Case Study Summary page.
- I don't see anything wrong with his method of teaching.
- During the lecturing part of the course, I suggest he should use an overhead when writing out the pathways etc. I found it hard to understand what he was writing at times.
- More directed learning style.
- N/A
- I can't think of any ways.
- He could wrap up the end of each class with a few words on what we should have learned throughout that class period to determine if we are on track and learning the material appropriately.
- I believe that groups should be switched around every couple of weeks because it seems more fair.
- Maybe try to have more wrap-up lectures. I guess try to have an ending lecture for each case study to make sure everyone understands the main points.
- Sometimes what we do in class can get boring. We come in and do the same things it feels. We should have a few class periods randomly thrown into the semester where we do something completely different. I feel it will actually hold students attention more.
- I did not mind the PBL format for the second half of the semester. I understand the class size for this year was large and he did not have enough time to go around and talked to everyone in the group. I think if he came to the group and discussed the problems, it would have helped understanding the concepts. I wish he had more lectures as well.
- Give reading assignments from a textbook. Point students in the right directions with some of the harder homework questions
- Provide more hints into what will be expected to be known for the exams.

- Some groups have too many people, and it is not effective during discussion. Maybe in the future Professor White can assign groups after the add/drop period, or re-assign groups if number of students in groups are not equal.
- The big problem is just notifying us how large a pathway is when he's doing it on the board so we can take better note.
- Because some people don't take the time to research questions well for the PBL format to work, I think its ineffective and truly frustrating. We end up with gaps in our knowledge because someone decided to not do their homework and that is not fair to the rest. When it comes to lectures I would ask that you become just a little more aware that our notebooks are vertical not horizontal so sometimes it is difficult to accommodate information which spans across the board
- In a graduate level class, it is difficult to get people to participate and attend class regularly, so the fact that class has its basis in group work is hard to cope with. I think my learning would have been improved if there was less time in the course devoted to group work.
- He could make the homework assignments shorter or less frequent because they are overwhelming and aren't helpful enough to be worth all the time required to complete them.
- Organize the lecture portion of the class a little more in order to cater to the students' note taking during class...I often had to squeeze important mechanisms into the bottom corner of the page.
- In regards to the case study, I think I could have benefited if there was an opportunity for students to submit a rough draft 1 to 2 weeks before the final was due for a peer evaluation. I found that as I was writing it I knew what I wanted students to discuss, but I don't know if I necessary conveyed that in my writing. This extra step would have also helped me to stay on track so I wasn't left completing the assignment at the last minute
- Some of the PBL learning case studies that were done in class were a little hard to understand or make sure that one had the full understanding of the material. It would have been nice if Prof White could have done a wrap up on important concepts, or highlight what should have been learned, just so students know if they truly got out of the case study what was meant to get out.
- I felt my group fell behind when we did the case studies. Maybe more emphasis on accountability within groups during these activities would have helped (establishing ground rules, etc.). Also, I was never sure what I was supposed to know. Perhaps a sheet simply outlining topics we should know would help me fill in the gaps.
- none
- Stop using PBL.

**QID 3608 - Identify or describe some thing(s) that Professor White does particularly well.**

Responses (33 of 40)

- Dr. White does a good job of including students with different backgrounds and strengths in his class discussions.
- He writes case studies very well. The introductory pages are always my favorite because they are easy to identify with.
- Dr. White designs creative case studies. He maintains the students' attention by making them do the work. Instead of lecturing, he provides us with the opportunities to teach ourselves. He offers variety in the course by mixing up lecture days and problem-based learning days throughout the semester. He circulates around to the groups when we are working and asks us questions in order to lead us to answer our questions.
- This is the first class I have had with Dr. White in which he has lectured for a portion of the class. His lectures were clear and organized and the material was presented on the chalkboard, which helped me keep up with what he was saying and writing.
- By virtue of his course organization and instructional methods, Dr. White is very good at leading a student to an answer rather than showing it to him/her. This type of instruction is particularly

helpful because it has greatly improved my ability to navigate the complicated world of available information in the field.

- Professor White was very good at getting to the heart of metabolism. In a one semester course, it is impossible to cover all of metabolism, but Dr. White capably picked topics which combined a number of ideas and helped students work through a broad spectrum of issues.
- He definitely provides a challenge.
- He is very helpful and always willing to help for those that are willing to learn. He is also good at conveying the material to students.
- Class participation. He also does a good job of having the students find information on material in the class - not just giving the answers. Tests are fair, and group work is very beneficial.
- He facilitates learning by not giving the answer right away, but letting us find the answer ourselves which is a very effective way of learning. I feel that I've learned more material in this class than in any other class simply because of his teaching method.
- He has always been extremely receptive and will spend as much one-on-one time as needed for a student to comprehend a concept.
- Material was graded very quickly and in a helpful manner. He was excellent at identifying the key learning issues that students were having in understanding the topic. This course was helpful and the skills I obtained were invaluable in several of my courses and my development as a researcher.
- He uses examples and case studies to help convey the material to the students so that they can learn it properly. The case studies focus on topics in everyday life that the material learned can be applied to.
- He is excellent in making students figure out the answer to a question with giving them just the right amount of hints.
- He is extremely helpful and wants to ensure his students really learn the material, not just memorize it.
- Dr. White really encourages a deeper understanding of the material which is essential for students to learn. He encourages group participation and really wants the students to learn. He asks questions very well too. He knows what to say to get you thinking. He also knows how to answer questions too. He doesn't give the answer but definitely leads students in the right direction which is a good method of teaching.
- Dr. White encourages students to be independent thinkers. He helps students as much as possible outside of class. When seeing him on a one to one basis he is very friendly and helpful in directing you in the right direction
- Facilitates a learning atmosphere, facilitates working between students. Encourages students to come to him after hours with any questions that they may have. Effectively explains the pathways which he is describing and the overall effects of these pathways.
- When I have questions after classes, he always patiently help me.
- Dr. White was really good at challenging his students without doing it in the traditional way. Rather than just asking us a question we were forced to think about it. I was constantly pushed outside my comfort zone and I consider that to be a good thing.
- Dr. White makes you seek information outside of books and your peers.
- He is very understanding of how long it takes us to write down things instead of just going through power points which are not retained well.
- He knows how to make the information we are learning relevant and meaningful. He is an interesting lecturer. Encourages class participation
- Dr. White should encourage the class to begin their case study earlier in the semester. He did make sure that everyone had their topic by the end of September; however, most students had no idea how long the project would actually take. Some students felt like they started too late and needed more time to complete the assignment
- He explains connections well between concepts and pathways to give the big picture.

- Explains topics covered in class so that the students can see the "bigger picture" and grasp the meaning of the topic in terms of intermediary metabolism.
- Get you to think for yourself.
- Giving students an opportunity to display their knowledge in multiple ways with papers, case study, quizzes, exams, and homework assignments. Since people's strengths are in different areas I thought the variety of assignments put everyone on a level playing ground as long as they did the work and put effort into it
- Prof White is great at invoking questions by students. He will not flat out tell you an answer but make you think thoroughly through the problem therefore you will be able to understand the answer in greater depth. He makes students pay attention ask questions, and use resources outside of the classroom to understand the material.
- Dr. White is an effective teacher. He plans his lectures so that students are involved, challenged, and leave class feeling as if they know a little more. His enthusiasm for the subject and for the learning of his students makes the students want to learn more. Instead of "forcing" students to learn, Dr. White creates activities, homework assignments, and projects that "challenge" students. It's as if he's saying, "I know this is hard, but I think you can do it. Let's see if you can keep up with me." That sort of attitude within the classroom promotes a friendly, learning-enriched environment, which has manifested in between students because we meet outside of class regularly.
- He lectures well and plans out his lecture notes well he is always available for help he is up to date with the latest scientific information he incorporates aspects of other disciplines into his material

**CHEM-643, Intermediary Metabolism, Fall 2008**  
**Final Course Evaluation - Numerical Responses**  
**HAROLD B. WHITE – Instructor**

**QID 4329 - The course was well organized.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	1	3	7	27	38 / 40	4.58	0.76
Percent	0%	2.6%	7.9%	18.4%	71.1%			

**QID 4330 - The course textbook was very useful.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	8	19	11	38 / 40	4.08	0.71
Percent	0%	0%	21.1%	50%	28.9%			

**QID 4331 - The course examinations emphasized understanding of the material.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	1	3	18	16	38 / 40	4.29	0.73
Percent	0%	2.6%	7.9%	47.4%	42.1%			

**QID 3419 - The course emphasized understanding of the material rather than memorization.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	2	15	21	38 / 40	4.5	0.60
Percent	0%	0%	5.3%	39.5%	55.3%			

**QID 4650 - I am a**

Scale text	Undergraduate	Graduate Student	Total
Scale value	A	B	
Total	36	2	38 / 40
Percent	94.7%	5.3%	

**QID 4651 - On average, I spent \_\_\_ hours a week outside of class on work related to CHEM-643.**

Scale text	<3 hours/week	3-6 hours/week	6-9 hours/week	9-12 hours/week	>12 hours/week	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	2	12	17	6	1	38 / 40		
Percent	5.3%	31.6%	44.7%	15.8%	2.6%			

**QID 4629 - I found working on the homework problems in the first half of the course to be a valuable learning experience.**

Scale text	Strongly Agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	15	16	3	4	0	38 / 40		
Percent	39.5%	42.1%	7.9%	10.5%	0%			

**QID 4630 - I found working on case studies in the second half of the course to be a valuable learning experience.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	5	24	5	3	1	38 / 40		
Percent	13.2%	63.2%	13.2%	7.9%	2.6%			

**QID 4631 - I learned more working on the homework problems than I did working on the case studies.**

Scale text	Strongly agree	Agree	No Opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	12	8	11	6	1	38 / 40		
Percent	31.6%	21.1%	28.9%	15.8%	2.6%			

**QID 4632 - Based on things I learned this semester, I would really like to learn more about intermediary metabolism.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	13	16	8	1	0	38 / 40		
Percent	34.2%	42.1%	21.1%	2.6%	0%			

**QID 4633 - Instead of case studies and group work in the second half of the course, Dr. White should have lectured for the whole semester.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	5	5	14	10	4	38 / 40		
Percent	13.2%	13.2%	36.8%	26.3%	10.5%			

**QID 3583 - The assignments I turned in were graded and returned promptly.**

Scale text	Never	Rarely	Sometimes	Frequently	Always	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	0	2	36	38 / 40	4.95	0.23
Percent	0%	0%	0%	5.3%	94.7%			

**QID 4634 - A considerable amount of the material in CHEM-643 reviewed material I had in other courses.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	5	9	5	15	4	38 / 40		
Percent	13.2%	23.7%	13.2%	39.5%	10.5%			

**QID 4635 - I personally learned a lot researching my term case study assignment.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly Disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	17	18	2	1	0	38 / 40		
Percent	44.7%	47.4%	5.3%	2.6%	0%			

**QID 4636 - I found the work load in this class to be excessive.**

Scale text	Strongly Agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total	Mean	Std. Dev
Scale value	A	B	C	D	E			
Total	6	12	10	10	0	38 / 40		
Percent	15.8%	31.6%	26.3%	26.3%	0%			

**QID 4637 - My grades on the assignments reflected the skills and knowledge I have developed in this course.**

Scale text	Strongly agree	Agree	No opinion/Undecided	Disagree	Strongly disagree	Total
Scale value	A	B	C	D	E	
Total	3	18	8	7	2	38 / 40
Percent	7.9%	47.4%	21.1%	18.4%	5.3%	

**QID 4638 - I frequently talked about topics from this course with friends and other people not taking this course.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	3	5	9	16	5	38 / 40	3.39	1.13
Percent	7.9%	13.2%	23.7%	42.1%	13.2%			

**QID 4639 - I feel confident in my ability to learn what I need to know to understand issues in intermediary metabolism.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	1	2	29	6	38 / 40	4.05	0.57
Percent	0%	2.6%	5.3%	76.3%	15.8%			

**QID 4640 - I would prefer that the course had a PBL format for the entire course rather than just the last half.**

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	13	17	5	3	0	38 / 40	1.95	0.90
Percent	34.2%	44.7%	13.2%	7.9%	0%			

**QID 3602 - Wireless laptop computers are of little use in this course.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	13	12	7	4	2	38 / 40	2.21	1.19
Percent	34.2%	31.6%	18.4%	10.5%	5.3%			

**QID 4642 - Other members of my group did their fair share.**

	<b>Hardly Ever</b>	<b>Occasionally</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Almost Always</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	0	5	9	13	11	38 / 40	3.79	1.02
Percent	0%	13.2%	23.7%	34.2%	28.9%			

**QID 4643 - The instructions on writing a case study problem were insufficient guidance for me.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	3	19	4	10	2	38 / 40	2.71	1.11
Percent	7.9%	50%	10.5%	26.3%	5.3%			

**QID 4644 - I would prefer if this class met in the late afternoon.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	5	10	7	6	10	38 / 40	3.16	1.42
Percent	13.2%	26.3%	18.4%	15.8%	26.3%			

**QID 3599 - I found the course web-site to be a useful resource.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	0	1	3	15	19	38 / 40	4.37	0.75
Percent	0%	2.6%	7.9%	39.5%	50%			

**QID 4645 - I liked the structure of the quiz with an individual response followed by group response.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	0	2	5	19	11	37 / 40	4.05	0.82
Percent	0%	5.4%	13.5%	51.4%	29.7%			

**QID 4647 - I would recommend this class to other students.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Total</b>	<b>Mean</b>	<b>Std. Dev</b>
Scale text	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>			
Scale value	1	2	3	4	5			
Total	0	4	9	13	12	38 / 40	3.87	0.99
Percent	0%	10.5%	23.7%	34.2%	31.6%			

**CHEM-643, Intermediary Metabolism, Fall 2008**  
**Final Course Evaluation - Narrative Responses**  
**HAROLD B. WHITE – Instructor**

**QID 3436 - Comment on the course.**

Responses (30 of 40)

- Having exams and quizzes that were not open-notes was somewhat contrary to the conceptual basis for this class, but I suppose it does make sense that biochemists would be required to have some biochemistry memorized.
- This was a great course. It's too bad that it had to be packed all into one short semester because there's so much to learn. Perhaps in the future there could be an Intermediary Metabolism Course II.
- The course is challenging and a bit overwhelming. Although it is stressed in the beginning of the semester that students get a general overview of intermediary metabolism, it is easy to get bogged down by the details and miss the big picture of things. Often, it is not until the end, that students can look back and really understand what we were supposed to have grasped from the material.
- The topic of metabolism is a wide topic with many subtopics. The workload in this class supported this observation.
- This course was certainly the most comprehensive of the courses in the major. It tied a lot of concepts together and was very good about putting the science in context. I have nothing critical to say about it.
- I like the mix of PBL and traditional lecture format. It really serves as a nice supplement to the overall comprehension of the material.
- A lot of material to get through in such a short amount of time. This course requires a lot of time and effort, which is difficult to give considering the other courses that are taken.
- The course was well organized a fair mix of lecturing and case studies. I like the mixture of the two teaching styles, as compared to only one or the other. The lectures were beneficial to my understanding, while the case studies were a nice change of pace to keep things interesting.
- Well organized with the case studies during class, and the final case study paper was very beneficial and fun to write.
- I liked this course a lot because I found the material very interesting. The work load may have been a lot, but I definitely saw the purpose in doing that amount of work. It definitely is a good biochem class to wrap up my senior year as a biochem major. It applies what we know about chemistry to real situations we can relate to and helps us see the significance in the knowledge of this material.
- The course was well organized and effective. I would only question the selection of the topic and their importance in biochemistry (e.g. Folate metabolism)
- The course was a little difficult and the exams dealt with material that wasn't really learned in class. The exams contained questions on further topics of the material that was learned that needed to be discovered by the student outside class. If the student did not know about or did not find info on these more in depth topics they did poorly on the exam
- It is a very interesting course and I have learned a lot from it.
- I enjoyed the course because I really learned a lot about metabolism. Also I found the topics/examples used to teach metabolism interesting.
- Overall the course was good. There was a lot of information, sometimes too much. I felt like we learned about so many compounds that I had a hard time studying for the exams etc. because I just couldn't remember them or their structures. Compared to 342, groups didn't seem to be as focused since we didn't do group work all semester.

- The first half of the course was interesting with Dr. White teaching. The homework assignments definitely helped to understand the materials better. The problem based learning encouraged students to learn/think independently. However, working with groups were the group members did not show up most of the lectures tend to hurt other students in the group. Moreover, having more than 2 bright students in a group tend to discourage other students to ask/answer questions.
- PBL is not an effective method for teaching a class at this level
- Difficult course but could be very difficult and time consuming.
- Very good
- It was a great course. Very outside the box, but I really enjoyed it and I got a lot out of the homework and case studies we did. It was nice to get out of a lecture hall.
- The PBL format, although good in theory, it does not work well. It is frustrating, and a big waste of time.
- I wish that Dr. White had been more specific with the information we should get out of each case study we did in class. After each group completed each case study, a class discussion on the important points would have helped.
- \This course gives a decent overview of metabolism but could cover more material. It covers less material than similar courses, but emphasizes understanding.
- Challenging yet rewarding
- It involved a lot of work and thinking on your own, both inside and outside of the classroom.
- I think this course is the perfect capstone for a biochemistry major and it should be called such.
- It challenged me in new ways, and was probably one of the most difficult, but most beneficial courses I have taken at UD. I would strongly recommend that advisors urge their students not to take a second writing requirement course or other advanced chem/bio courses in this semester so you have enough time to devote the material. I am both sad and extremely grateful that this course is almost over.
- This course was very difficult and contained a lot of material. However, I feel that I have a much better understanding of metabolic pathways after taking this course.
- I liked the course a lot. I thought the way the information was presented was helpful and logical. My group struggled with the case studies, as we are supposed to, but I'm not sure we got everything out of them like we were supposed to. More emphasis on group accountability or a sheet listing the concepts we should be familiar with would help me to know where I missed putting the pieces together. This course is about learning each of those pieces of metabolism and seeing how they fit together.
- one of the most rewarding courses I have taken
- Great topic poorly taught

**QID 4649 - In a sentence or two, describe or characterize CHEM-643 to someone who might consider taking the course.**

Responses (33 of 40)

- It's a fairly easy class to do moderately well, but you have to do some work and go to class.
- CHEM-643 is a graduate level class that requires extensive outside research and self-guided learning. It is nothing like any other class you have taken or even will take. It is unique and until you experience it from a student's point of view, you won't fully understand its impact on your overall education and future research habits.
- CHEM-643 requires you to take responsibility for your learning and understanding. You must put in the effort and seek the resources to really learn anything.
- CHEM-643 is a class on intermediary metabolism that is half lecture and half PBL. A lot of outside work is necessary but only because metabolism is a difficult and extensive topic.

- This course tries to address important concepts in metabolism, and helps the student independently find the answers to his own questions - a useful skill in the field.
- This is a hybrid PBL course which combines the best of the traditional lecture format with the active PBL format in an attempt to understand the basics of metabolism.
- The coursework is interesting due to the cases that are related to them. However there is a lot of work involved and exams are very challenging.
- Chem643 is an interesting course and Professor White is a good teacher; however, it is extremely challenging and requires a lot of your time.
- One will learn a lot on their own through guided case studies as well as lectures here and there. Case study paper is a great learning tool.
- This course can be challenging, but it is class worth taking. You will learn a substantial amount of information that will be useful on your own and if you were to go into the biochemistry field or medicine.
- Chem643 requires a certain level of previous knowledge of biological mechanisms, enzymes and proteins. I would recommend Chem643 to students who have taken the traditional biochemistry route beginning freshman year.
- One word: metabolic pathways.
- CHEM-643 is a class that develops skills that will aid you in understanding and interpreting metabolic pathways and systems.
- the course is difficult and a strong background in chemistry and biology is required
- It is a difficult course that tests your basic knowledge and builds on it. It is interesting because many things that happen in our bodies make sense after taking this class.
- In the first half of the course is more lecture structured and you will learn more mechanism and pathway topics. The second part of the course will be more PBL and you will still learn pathways and mechanisms, but you will learn more about each topic too.
- The class is taught first by lecture and then is broken up into groups for the remainder of the semester. We learn new things everyday along with at least 1 new compound each day. It is a hard course and requires a lot of time and effort in getting the most out of it.
- Students will learn a great knowledge in intermediary metabolism. However when they consider taking this class they should make sure not to overload their schedule. He expects his students to study outside of class 3 hours/day and his homework assignments take a long time to understand and finish them. Students should make sure to review materials from CHEM 641.
- This course is unlike any other I have taken in my entire educational career. It is in a PBL in which there is a decent amount of group work. There is no assigned readings or textbook so looking for topics important at hand are up to you to find.
- An in-depth look into metabolism. Including the TCA cycle, nitrogen fixation, and fatty acid synthesis. Fair amount of problem based learning is involved. Have to spend a lot of time on it, and will truly learn something about metabolism.
- It was not your traditional biochem course but I learned more than I would have in the traditional course. You will be pushed outside your comfort zone, but go with it and you will get a lot out of the class.
- It is a challenging course that you must be completely dedicated to. I wouldn't take other courses that require a lot of time because this takes much more than three credits of time.
- The lectures are great. There is a lot of material covered but it is enjoyable to learn it. Case studies are not enjoyable, people sometimes slack off and the group (and your grade) suffers from it. The exams are extremely hard but are not about memorization but about problem solving skills which is frustrating at times. It is a very challenging course so unless it is required I would not recommend it.
- CHEM 643 reviews the biosynthesis/degradation pathways of all the major macromolecules in the human body.
- It covers more about intermediary metabolism than you will ever know existed.

- This course can be a real pain, but if you like intermediary metabolism, then you would probably find it worth while.
- A very difficult yet interesting course that relies heavily on one's prior knowledge of biological and chemical principles.
- A lot of work and time consuming, but worth it because you learn a lot about the covered topics.
- A challenging PBL/lecture course where you were learn more about metabolism than you ever thought possible
- Chem-643 is a class will help you understand what is happening inside of your body. It helps you understand how things in your body are synthesized stored, and then metabolized for your bodies use.
- CHEM643 is a course about different metabolic processes in the body and how they relate to one another. Through homework assignments and group work, you will learn the basic principles of metabolism and extend those principles to many different pathways.
- A well organized and informative course. You will leave this course with a better understanding of metabolism as well as a different method of thinking about biochemistry.

**Question ID: 3610 Reread the course syllabus and provide some thoughtful feedback. e.g. Did the syllabus adequately describe the course? Are there aspects of the syllabus that are unclear or misleading that should be revised? What is missing that should be included? Feel free to discuss this question with your classmates.**

Responses (32 of 40)

- The syllabus did adequately describe the course. It would be nice to know that the grading scale is curved/set is stone, as there seemed to be some varied guesses about that.
- The course syllabus was very organized, and Dr. White almost followed it exactly this semester. Everything was pretty explicit. There was nothing that misled me.
- The course syllabus is well-detailed. It would be helpful to have text page numbers along with the daily scheduled topics.
- The syllabus is adequately described the course completely.
- There were no surprises in this course and the syllabus was not ambiguous.
- I feel as the course syllabus did prepare me for what was to come in the course. The PBL portion was outlined will, though the case study could perhaps be elaborated on a little more in the syllabus given its foreign nature to some students. Overall, very solid.
- The syllabus covered all of its bases. It was apparent that this is a rigorous course.
- I think the course syllabus is very sufficient and covers the class material very well. It gives students a good idea as to what to expect. I think the only confusing part I found upon my review was some of the percentages in the grading did not seem to be consistent throughout.
- The course syllabus did a great job of elaborating as to the purpose of the course, as well as was accurate (coming from someone who is almost done taking the course). The course syllabus provides a lot of information on homework as well as cycles for knowledge even in the future.
- Yes, the syllabus effectively included all details of what the class will include. It was not misleading and it was definitely straight forward.
- The syllabus did not adequately describe the course. There are parts of the syllabus that designate more or less weight to certain parts than other so the grading system became confusing.
- The syllabus was very well written
- The course syllabus adequately described the course and I did not notice any missing or misleading sections.
- no

- I believe that the course syllabus provides enough description of the expectations from the students.
- The syllabus accurately reflected the course and provided a good overview of what was expected. I think that the grading percentage breakdown is a little confusing since quizzes aren't included and in one place it says the midterm counts for 15% and in another it says it counts for 20%.
- I felt that the course syllabus accurately described the class. Quizzes were not mentioned in great detail which made it hard to students to know how to take them into account for their grade. We didn't know if they were for example 1% or 10% which typically students like to know when determining where they stand in the class.
- I think overall the syllabus described the course very well. He listed his expectation for his students taking this class and how the grading scales worked. His old exams and useful links relating to this course helped to study for this course. However in the beginning of the syllabus it listed that writing a case study is 15% of the overall grade but at the bottom of the syllabus it is listed for 20%.
- The syllabus was very easy to follow. There was sufficient information for when assignments were do and what was happening in class on a particular day.
- In "Groups and Group Function" part, should emphasize all members should work on the case studies after class. Or the group is useless.
- The syllabus did a good job explaining the course. I also really liked the course schedule and website. I was on there daily.
- not that i am aware
- Syllabus is fine.
- The syllabus did describe the course adequately. I do not recommend any revisions.
- Syllabus was clear and accurate
- There were some discrepancies in the syllabus regarding what percent of the grade certain assignments were worth. The syllabus was a good resource in general.
- I think it did adequately describe the course, although its hard to know what to expect. Maybe you could delineate a little more about the time requirement that was involved in answering the homework assignments in the first half of the class, I personally did not expect them to take as much time and effort as they ended up taking.
- The syllabus was helpful and provided an accurate representation of what was to come.
- In the discussion of final/midterm exams it might be helpful to mention that the final is cumulative (i.e. drawing on knowledge you should have gained over the course of the semester) and that it is open note (not open book) for the midterm, and only part open book for final.
- I really like how the syllabus is set up. It is clearly explained what is going on each day in class and when assignments are due. I also liked the additional resource page on the syllabus, this was extremely helpful especially on the HW assignments.
- I thought the syllabus was useful. I consulted it frequently.
- The syllabus clearly outlined the course and the professor's expectations.

**QID 3611 - Open Mic. Reflect on the course and identify those aspects that you like or think could be improved. Please suggest ways for improvement.**

Responses (31 of 40)

- Well, again. Make the people actually come to class through incentives like in 342.
- I think that for the case study, there could have been a half way check point assignment to make sure that students had a plan developed early enough in the semester so that there would not be as much cramming at the end. Of course, the student should plan the schedule out accordingly, but it probably would have helped in the long run.

- I realize that providing answers to old quizzes and exams defeats the purpose of PBL and encourages the unmotivated students to just get the answers. However, I suggest that answers be provided to students who have shown thorough completion and analysis of the questions. On quizzes, for example, students could explain their reasoning with a few sentences below the questions--demonstrating a real understanding. Finally, confirming an answer with the right solution could corroborate that we are thinking in the right direction and prevent wrong analyses of other problems.
- During the PBL portion of the class, Dr. White went around to every group to discuss the case study problem we were working on. However, for a reason unknown to me, Dr. White did not visit with our group as often as other groups, and when he did come to our group his discussions lasted nowhere near as long as with other groups and not as in depth.
- I appreciate the knowledge of biochemistry that I gained through this course, but I much more appreciate the better familiarity with navigating the complicated world of information in the sciences.
- I really have no complaints about the course at this time. Aside from the usual aspects of group work being a problem at times (lack of participation/attendance of some group members), I thought overall the course ran smoothly and I really enjoyed it. It was a nice follow-up to 641 and 642.
- I think the course could be improved if there were consequences for the group not providing their share. Since this was a graduate level course there was no group leader and this led our group to failure. Attendance was poor in our group and not everyone pulled their weight when it came to researching and providing material for everyone to collaborate on.
- The course was very challenging, but a lot was learned. I like the layout better, as compared to Chem342, with the mix of PBL and lecturing. I did not find the homework to be overly beneficial; instead, they were simply time consuming and often frustrating. Overall, they did not aid in my learning.
- I think the course is fine how it is. The actual class isn't stressful because it revolves around group discussions. Students get out of it what they put in. The case study/lecture mixture, I think, is a perfect way to UNDERSTAND intermediary metabolism.
- I would suggest laptops to be provided in the class. In addition, more discussion on the significance of each problem set we do in class. In addition, a study guide upon midterms and a final, so we can have a clear understanding of what would be on the test.
- There needs to be more teaching and guidance.
- The course is fine as is.
- I think the first page of the case studies should be given out at the very end of class so that students can research exactly what we don't know. For some of the subjects I felt that there was so much I didn't know that I didn't realize what things I had to learn before I started.
- The only part of this course I did not like was the way groups are formed. I did not think they were fair because certain groups had more people than others and certain groups had better dynamics than others. I understand that the Professor cannot come up with all ideal groups that is why it is my suggestion to switch around groups or something during the semester to give all students a fair chance to do well in group work.
- I really enjoyed the second half of the course with the PBL, I think I might have just enjoyed the topics better. Also I really did learn a lot doing the case study, and I liked how we kind of presented our topics to the members of our group.
- I have yet to take the final, but I felt the midterm really stretched my knowledge and I struggled with it. Part of this I know was my own fault, but I felt like I couldn't apply anything I knew, despite my good grades on the quizzes and homework. I really feel that groups need to be more motivated as I know mine was not. I am not sure if that is a group issue or something that needs to in the future be addressed by Dr. White. I like the individual part of the quizzes but didn't like how the 2nd one relied on individual more than group. We worked more as a group and I felt like

that should have counted for more. I like Dr. White's dedication to the course and it does not go unnoticed by others as well. He is a very knowledgeable person. His office is always open for you to come in and talk and he really makes an effort to get to know the students. Overall class was awesome... just hard.

- For the case study project, I wish the deadline was before the Thanksgiving break instead of after. Also instead of having a preliminary discussion about the case study, it would have helped if we had to turn in a form of rough draft and had feedbacks through that way. PBL-wise, I think switching the groups during the semester would have helped a lot. It was really difficult to have a discussion with 2 or 3 people at a time. I also wish DR. White came and discussed the problems more often.
- Possibly more information as to what will be on the exams. Going into the exams it was difficult to know what may be asked of me.
- Should let students know each of them have to work on case studies after class, or groups cannot function
- Just a great class, I hope other people got as much out a I did. I love the fact that you get out of the class what you put in. If I put nothing in, I think I could still pass, but in this class I really noticed the difference that putting more time in did for me. Other classes, I put more time in and don't do any better, but this one is not like that.
- I suggest a later starting time so that more students will show up more frequently.
- I learned a lot from making my own case study but I believe that PBL does not work and at least in my group it was not successful. The time spent outside of class is supposed to be 3 hours per hour in class but for this class it is more like 4hours per hour in class which i found excessive. Perhaps the depth of the information could be lowered a little so that taking this class does not equal the same time commitment as a part time job.
- In general, I really enjoy learning about biochemistry and I like the way that Professor White makes you learn things without even realizing it. I also know that once the stress of a pending assignment is over, I realize that I really did learn a lot from the assignments he gives. This, however, is not the case for the case study assignment. I spent so much time trying to figure out how to write a case study that I hardly had any time to actually learn the biochemistry topics. If the case study assignment is to be used in future years, I would suggest having a workshop or something on how to write a case study earlier in the year.
- Didn't like that the class was at 9am...we had mandatory morning classes freshman and sophomore year...I feel like we should get a break senior year and sleep in a little bit. Homework really helped me understand the course material better than lecturing and case studies. I learned more when I did homework alone, since I had to put forth more effort and rely on myself.
- I can't say that I enjoyed the course. The work load was too stressful at times, especially the homework.
- Case studies/group work could be a little more directed by Dr. White, because often the intent of the question was missed by our group...he could maybe circulate a little bit more and ask questions that could hint to the answers he wished for us to obtain.
- I liked having Dr. White lecture, he was interesting to listen to and oftentimes had relevant stories that would help me understand better. My group this semester was not as awesome as my group from CHEM342, we didn't mesh as well, therefore I did not enjoy group work this year. The assignments for the semester were okay. I would have liked the homework to be spread out a bit. The work was overwhelming when they were consecutive weeks.
- Although at the time I found them very time consuming, I liked the homework assignments because they really helped me understand the material. I think for each of the case studies there needed to be a final project (like a concept map) or a quiz to keep everyone on track knowing that there was a tangible end goal to understanding the case study, not just the final.
- Like mentioned I like Prof White's PBL in the second half, however I wish he would have spent a day or maybe made a handout, or given us the summary including topics we should have learned

throughout the case. This was if something was not covered or brought up in ones group they could know to review that information for the final exam.

- The homework assignments were challenging, but worth the time. My main concern was that students did not put enough effort into the PBL portion of the class. The group work was not emphasized as much as in 342 and I thought it needed to be. My only other suggestion would be a list handed out periodically as a checkpoint. By this time in September, be able to explain the following: or something like that.
- There is little that could be done to improve this course. It is a great course. It is probably one of the more difficult courses I have taken, but I will come away from it with significantly more knowledge than other courses. Moreover, I understand and remember the course material better than most.