CHEM-643, Intermediary Metabolism, Fall 2007
Final Instructor Evaluation - Numerical Responses
HAROLD B. WHITE – Instructor

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	0	2	26	28/28	4.93	0.26
Percent	0%	0%	0%	7.1%	92.9%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	0	12	16	28/28	4.57	0.50
Percent	0%	0%	0%	42.9%	57.1%			

QID 3427 - The instructor encouraged class participation.

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	0	3	24	27 / 28	4.89	0.32
Percent	0%	0%	0%	11.1%	88.9%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	1	2	0	9	16	28 / 28	4.32	1.06
Percent	3.6%	7.1%	0%	32.1%	57.1%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	1	11	16	28 / 28	4.54	0.58
Percent	0%	0%	3.6%	39.3%	57.1%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	0	3	16	19 / 28	4.84	0.38
Percent	0%	0%	0%	15.8%	84.2%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	3	2	7	16	28 / 28	4.29	1.01
Percent	0%	10.7%	7.1%	25%	57.1%			

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	0	2	0	9	17	28 / 28	4.46	0.84
Percent	0%	7.1%	0%	32.1%	60.7%			

CHEM-643, Intermediary Metabolism, Fall 2007
Final Instructor Evaluation - Narrative Responses
HAROLD B. WHITE – Instructor

Question ID: 3435 - Comment on the instructor.

Responses (19 of 28)

- Dr. White expects a lot from his students, however it is evident that he really cares about how his students are doing in his class as well as how they are doing in the career paths, etc.
- He is probably the best teacher I've ever had. Absolutely the best college professor I've had. He knows how to teach using examples and manages to perfectly walk the line between too little guidance and not enough freedom to learn your own way.
- Dr. White is a great instructor. He is always available outside of class and structures the course so the the information you learn is actually retained.
- I enjoyed this class much more than CHEM 342. Dr. White did really well in explaining many of the metabolic processes.
- great professor, really cares about the students' progress
- I don't like problem based learning, and I don't like group based learning. The lectures were very informative, and I felt like I got a lot out of them. But I felt like a lot of the time it was a waste of class time to be there doing group work.
- I love professor white. He give a lot of work which takes a lot of time, but on the other hand the work help to reinforce whatever we learn in class.
- Dr. White certainly enjoys teacher, and I learned very much in his class. He is always helpful, especially outside of class, and desires to see students find answers for themselves. I wish all chemistry professors paid as much time to their students as Dr. White does. However, I don't feel problem-based learning reaches all students equally. I got much more out of his lectures than the PBL portion of the course. I feel I got much more out of this class than CHEM342 precisely because Dr. White did more lecture.
- Very knowledgeable nice man.
- Dr. White is one of my favorite teachers at this school because he is genuinely interested in whether or not we have learned and understood the material.
- He shows the material in a way that brings it out of the text to give it an angle that text just would not. I enjoy the problem based learning method but I find the out of class work to be too much. For students who are carrying full class loads, 15-20 hours out of class time per week is, I feel, high. Members of the class who do exceptionally well are not taking full loads and I think he should look into this. It would help to have more structured class time that allows some definitively learning in class. Group discussion may bring up issues with case studies but they do not provide the information that must inevitably be learned for the class.
- Dr. White is very responsible and original in several ways to make the course more interesting to us.
- Great understanding of the material but also easy to approach
- Dr. White's classes are always very challenging. PBL is by far the most worthwhile and interesting teaching method I have encountered while at University of Delaware. Dr. White is open for feedback and I appreciate how much time he puts in to preparing case studies for classes that will interest many students.
- I like Dr. White's teaching methods, though many don't learn as easily through the PBL method. I enjoyed the class a great deal. I would have liked a few more lectures on the material.
- He really knew his material and was very excited to be teaching it.
- Very knowledgeable professor who is passionate and enthusiastic about what he teaches and tries to get the students to be just as interested in the subject matter. Cares a lot about his students and wants them to do very well in his course.

- He has a vast chemical knowledge, and is very helpful to students who have questions. He uses teaching techniques that I have not had from any other course.
- Dr. White expects a lot from his students, but he facilitates learning well.
-

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

Responses (20 of 28)
- Answer keys should be provided to homework problems after they have been submitted, so that students can study important concepts for the test. Also, it would be helpful if the answer key was given to the practice tests.
- His lecturing was a little scattered at times in how it was presented, but generally it was still helpful.
- I feel that more direction during case studies would help to focus research to relevant topics. The class is well structured but I personally don't find problem-based learning beneficial for my learning and would not recommend the course for that reason.
- One way I think his teaching could improve was if he found some way to encourage discussion between groups in addition to the intra-group discussion that he already emphasizes. Perhaps have some kind group v. group debate. That's kind of a stretch, but there's nothing else I can think of changing.
- Dr. White would be better prepared for the period of the course when the case study is due. This class time was not used as efficiently as other parts of the semester.
- I think some more summaries or entire class discussion of the case studies would be beneficial.
- if any, more lectures?
- I understand that he strongly encourages PBL, and that is fine. But I think there could be a better way to do it. Also I feel like when we're doing PBL, he doesn't even need to be there. I think if he got more involved with the groups, it could help them learn better.
- Maybe if he did a wrap up at the end of each case study. This would be helpful because I know that different groups get different things done, and this would help to know what exactly is important for the exam.
- I think that posting keys to some of the assignments (homeworks, etc) may help to clear up remaining learning issues. Sometimes you may think that you understand something completely when you are in fact missing a key idea.
- Include more lecture in the course. Occasional PBL case studies could be useful for certain topics, but lecture helps some students to organize information better than PBL. In addition, wrap-up discussions led by Dr. White at the conclusion of each case study would be a very valuable way to put all students on the same page and make sure they covered all important points of the case study.
- Sometimes I felt like the class just moved to quickly. I know it is necessary because there is so much to learn but maybe a slight slow down might help.
- Actually the way Dr. White teaches is very instructive to me, especially the way he is thinking.
- More understanding of direction of metabolism. I kept thinking that some of the pathways were just random.
- It seems it would be helpful to have a wrap up after each case study. This could even be facilitated through class discussion by having each group summarize what they thought were the most important parts of the case study and present it to the rest of the class.
- I would recommend adding a few more lectures with clear organization. The lecture in the middle of the semester on glucose usage was well organized and easy to follow. It would be helpful to have a little more organization.
- It would be helpful to go over the case studies and just say what the main principles were and state any specific things we were supposed to learn.

- One thing I have noticed in past courses taught by Dr. White and this one is that, even though he says everyone can get an A in the class, this is not so. The grades are still based on the average, so the majority of people get B's, with several A's and C's etc. The final grade is based on the final rank in class, basically, which I think is a little inappropriate for such a hard graduate course as chem643. Everyone should indeed have the chance to get an A, disregarding how the rest of the class performs.
- There are none that I can think of.
- Personally, I am not too crazy about the PBL style. A lot of the time, what you get out of these courses is dependent upon what your group dynamic is. For example, when one person takes charge, I allow myself to 'slack off' and not do as much work as I should

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

Responses (22 of 28)
- He lectures very well, especially because he knows a lot about biochemistry. He knows how to spark our interest and influences us to delve deeper into solving questions about concepts we need more information about.
- When he sits with each group he is very helpful and aiding our discussion and helping us move forward.
- -Gets students to think on their own. -Encourages group discussion. -Paints the broad picture of metabolism and shows the connections between separate topics and pathways. etc. etc.
- He is always available to discuss course material outside of class time and promptly replies to e-mails. Dr. White is also very organized and uses class time efficiently.
- Dr. White does a good job of giving some real world examples of metabolism. I especially liked the inherited metabolic disorders assignment.
- Incorporates PBL into lecture. Strongly encourages independent learning.
- Makes up effective case studies
- He is very good at explaining difficult concepts. He also is very good at making difficult concepts interesting. I really like that he doesn't use slides and uses the board instead because it makes the pace better, and also makes students more involved. I remember last year for 642 the instructor used PPT, and though it was flashy, most of the time students weren't really paying attention.
- Professor White definitely cares about his students. He is always available to us and he always asks questions that make us think.
- I think he does a good job of stimulating discussion in groups and guiding groups. He does a good job of making very different assignments so that the class remains interesting.
- Fantastic at getting students to think for themselves. Often answers student questions with additional questions to stimulate deeper thinking about the topic. Moves the class at an appropriate pace. Treats all students with respect. Very helpful and accessible outside class, especially when discussion assignments such as the case study.
- Responds to e-mails in a timely manner and helps us reach an answer through asking questions.
- Lecturing. I thought that they were awesome and made so much more sense than most chem lectures. Also, i personally like the PBL problems. I feel like I learn to remember and apply rather than memorize. He is also a great mentor and someone to talk to outsie of class
- Please read previous comment
- For example, the case study can make me do the research by myself and could learn something that is not included in the textbook.
- Encourage use of higher level learning/thinking skills.
- Very good at motivating students to research and find the answers themselves.
- Dr. White is very approachable - whether for feedback about the class or questions dealing with material.

- He obviously loves what he does, and that comes across in class. For the lecture parts, it makes it more interesting to listen to.
- Encourages/forces students to do their best. His enthusiasm can be contagious and tends to carry over to students
- He does a very good job of getting the students to draw upon previous knowledge. He tries to get us to see patterns in chemistry, which often provide the answer to the problem.
- Dr. White is an excellent lecture-giver, when he lectures. He lectures more in 643 than he did in 342

CHEM-643, Intermediary Metabolism, Fall 2007
Final Course Evaluation - Numerical Responses
HAROLD B. WHITE – Instructor

QID 4650 - I am a

Scale text	Graduate Student	Undergraduate	Total
Scale value	B	A	
Total	3	25	28 / 28
Percent	10.7%	89.3%	

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	0	0	10	18	28 / 28	4.64	0.49
Percent	0%	0%	0%	35.7%	64.3%			

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	2	9	8	5	24 / 28	3.67	0.92
Percent	0%	8.3%	37.5%	33.3%	20.8%			

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	2	10	14	27 / 28	4.37	0.79
Percent	0%	3.7%	7.4%	37%	51.9%			

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	4	22	28 / 28	4.71	0.60
Percent	0%	0%	7.1%	14.3%	78.6%			

QID 4651 - On average, I spent [__] hours a week outside of class on work related to CHEM-643.

Scale text	>12 hours/week	9-12 hours/week	6-9 hours/week	3-6 hours/week	<3 hours/week	Total
Scale value	E	D	C	B	A	
Total	0	4	13	9	2	28 / 28
Percent	0%	14.3%	46.4%	32.1%	7.1%	

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 disagree	Disagree	No opinion/Undecided	Agree	Strongly Agree	Total
Scale value	E	D	C	B	A	
Total	0	1	1	9	17	28 / 28
Percent	0%	3.6%	3.6%	32.1%	60.7%	

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

Scale text	Strongly disagree	Disagree	No opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	0	2	5	9	11	27 / 28
Percent	0%	7.4%	18.5%	33.3%	40.7%	

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

Scale text	Strongly disagree	Disagree	No Opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	1	6	4	8	9	28 / 28
Percent	3.6%	21.4%	14.3%	28.6%	32.1%	

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

Scale text	Strongly disagree	Disagree	No opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	1	1	2	13	11	28 / 28
Percent	3.6%	3.6%	7.1%	46.4%	39.3%	

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 disagree	Disagree	No opinion/ Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	5	6	7	5	5	28 / 28
Percent	17.9%	21.4%	25%	17.9%	17.9%	

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	1	27	28 / 28	4.96	0.19
Percent	0%	0%	0%	3.6%	96.4%			

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

Scale text	Strongly disagree	Disagree	No opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	2	14	3	8	1	28 / 28
Percent	7.1%	50%	10.7%	28.6%	3.6%	

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

Scale text	Strongly Disagree	Disagree	No opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	0	0	3	6	19	28 / 28
Percent	0%	0%	10.7%	21.4%	67.9%	

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

Scale text	Strongly disagree	Disagree	No opinion/Undecided	Agree	Strongly Agree	Total
Scale value	E	D	C	B	A	
Total	1	6	11	10	0	28 / 28
Percent	3.6%	21.4%	39.3%	35.7%	0%	

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

Scale text	Strongly disagree	Disagree	No opinion/Undecided	Agree	Strongly agree	Total
Scale value	E	D	C	B	A	
Total	1	5	2	16	4	28 / 28
Percent	3.6%	17.9%	7.1%	57.1%	14.3%	

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	0	5	2	16	4	27 / 28	3.70	0.95
Percent	0%	18.5%	7.4%	59.3%	14.8%			

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	4	1	15	8	28 / 28	3.96	0.96
Percent	0%	14.3%	3.6%	53.6%	28.6%			

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	9	13	2	3	1	28 / 28	2.07	1.09
Percent	32.1%	46.4%	7.1%	10.7%	3.6%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	8	19	1	0	0	28 / 28	1.75	0.52
Percent	28.6%	67.9%	3.6%	0%	0%			

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

Scale text	Hardly Ever	Occasionally	Sometimes	Frequently	Almost Always	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	1	0	7	5	15	28 / 28	4.18	1.06
Percent	3.6%	0%	25%	17.9%	53.6%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	2	12	9	5	0	28 / 28	2.61	0.88
Percent	7.1%	42.9%	32.1%	17.9%	0%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	5	9	5	4	5	28 / 28	2.82	1.39
Percent	17.9%	32.1%	17.9%	14.3%	17.9%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	1	16	11	28 / 28	4.36	0.56
Percent	0%	0%	3.6%	57.1%	39.3%			

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

Scale text	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Mean	Std. Dev
Scale value	1	2	3	4	5			
Total	0	0	5	13	10	28 / 28	4.18	0.72
Percent	0%	0%	17.9%	46.4%	35.7%			

QID 4647 - I would recommend this class 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	12	10	27 / 28	4.07	1.00
Percent	3.7%	3.7%	11.1%	44.4%	37%			

CHEM-643, Intermediary Metabolism, Fall 2007
Final Course Evaluation - Narrative Responses
HAROLD B. WHITE – Instructor

QID: 3436 - Comment on the course.

Responses (18 of 28)
- It's a challenging course, but if a lot of effort is put in outside of class, it's not so bad.
- This course was difficult, by far it required the most work out of any of the classes I was taking this semester. However, I feel that I did get a lot out of it in terms of information.
- The only thing that I would ask for is a group of classmates who enjoyed participatory learning as much as I do. I still cannot believe some students asked Dr. White to lecture more. He's trying to teach us learn on our own, far more valuable than just teaching us facts.
- The course is amazing. I enjoyed how in depth the course went on the topics we covered. This was a unique experience.
- While I liked the case studies, I think there should be a little bit more lecturing by Dr. White.
- good course, challenging and you need to work hard
- Metabolism is really interesting and so I think it made the course interesting. However I think a lot of the time, a concept was taught in context to something real, but then on the test, a totally different example was used, and it was hard to take a concept out of context and put it into another context.
- The course was challenging but I liked it. I liked the format most of the time. Sometime I feel that the lecturing style could be a bit more organized, but other that that I'm fine with it.
- The course overall was very useful. My understanding of biochemistry and chemistry in general has certainly been cemented using this course. As someone hoping to pursue a career in life science, I feel this class has helped me redefine and affirm my scientific interests. However, I feel PBL isn't helpful for some students. I felt the lecture and problem set part of the course was much more rewarding for me than the PBL portion. The course relies too much on group work. I would like to see more lecture, especially when introducing new topics.
- very good course, although PBL learning is a hassle
- Very interesting. has to be in the top five favorite classes that I have taken in my years here
- This course provides a outline of the metabolism in our body, and it is very applicable in daily life.
- Very enjoyable. Good debate but perhaps a little more direction with regards to the material.
- I enjoyed this course a great deal. I enjoyed the involvement of both lecture and group work. A nice change from strictly lecture classes.
- It was challenging.
- Required for the major, so there isn't much of an option for students. I liked that in the past students could choose between this course and molecular biophysics. Overall not a bad course, the professor tried to make it interesting, but personally the topics covered are not too intriguing to me. It was mainly all chemistry, similar to organic chemistry classes.
- The course was a good mixture of lecture and PBL. The PBL portion encouraged students to help each other out with group work. It also at times required the students to go beyond the internet or textbooks to come up with answers.

- Overall, good course. Problem sets were difficult, but they helped further understanding. PBL format is not my favorite, but I enjoyed working with my particular group.

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

Responses (21 of 28)
- Make sure that you do work outside of class to research topics that you do not understand. I also felt that reading the textbook was helpful.
- This is a graduate level class (and the work load reflects that) based on the metabolic pathways of the body. This includes glycolysis, the Citric Acid cycle, and lipid metabolism.
- It is a course that teaches you how to apply the basics of biochemistry that you should have gained from previous courses to the kinds of problems one would face as a scientist.
- Chem-643 covers most topics that were either brushed by or never covered in other biochemistry. You will learn more about plants and animals than ever thought possible in one semester.
- This course uses specific examples of metabolism to give an overview of such a complex subject.
- CHEM 643 is a course in which you not only learn about metabolic pathways, but also how those pathways overlap each other.
- The class is challenging and requires significant time out of class for research. But, you learn a lot of useful information.
- If you are interested in applying the biochemistry that you've learned, then you will really enjoy this course, especially if you are interested in the health field. The course uses real life examples of metabolism. The class is not easy because you have to do Problem Based Learning, and a lot of the time it can be really frustrating. The exams are really hard because they don't really have much to do with the actual material learned in the class.
- Chem-643 is a half lecture half PBL structured class in which you will learn about the may different metabolic pathways and how they are connected to each other.
- Chem342 with lecture. A wide variety of assignments, exams, quizzes to facilitate learning about metabolism (TCA cycle, urea cycle, pentose phosphate pathway, etc).
- CHEM643 is an intense course, requiring lots of work outside class on assignments such as the Case Study and problem sets. I would recommend it for students seeking to pursue a career in biochemistry, biology or organic chemistry. However, I would also recommend that this be the main focus for the semester. Taking this class with other upper-level science classes would be a terrible mistake. If you can devote 10-15 hours per week to it, however, this class is absolutely valuable.
- The course is divided into two sections, one with lectures and the other with PBL learning.
- It is a hard but extremely valuable class. You will learn so much but it will be interesting from the first class to the last class.
- Course covers metabolism of carbohydrates, proteins, nucleic acids, and proteins. Course also considers processes of glycolysis, photosynthesis, and gluconeogenesis.
- This course provides you many useful metabolism that happened in our daily life.
- A intermediary metabolism class that fosters a lot of debate and outside research.
- CHEM 643 is a difficult class and requires a great deal of work outside of class. However, you will learn a lot and retain that knowledge (including intermediary metabolism as well as other skills)
- Its a course that focuses more on learning than other science courses, learning rather than memorizing. The course involved group work and individual work to gain the concepts that stem from metabolism.
- Be prepared to spend a lot of time on homework.

- An overview of the major topics in intermediary metabolism and applications through real-world problems
- It is a course that deals with many different aspects of metabolism.

QID: 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 (19 of 28)
- I feel the syllabus described the course accurately, and it listed exactly what Dr. White expects from his students.
- There is some disagreement about how much each assignment is worth.
- I can't see anything that is lacking.
- I found the syllabus to be informative and complete except in the area of the case study assignment. However, the case studies available in the classroom library helped fill in the gaps.
- I don't really see how the syllabus could be improved.
- Yes, the syllabus was clear, and outline the course very well.
- I thought the syllabus was very useful. It was easy to navigate and easy to find the things I looked for almost on a daily basis. The only part of the syllabus that was a little confusing was the case study assignment. I felt like it didn't give any structural guidelines and so it made me double guess a lot of the things I wrote. I would recommend either having one of your "A" case studies available online or having an example of your teaching notes for an old case study of yours online.
- I think the syllabus did a good job of describing the expectations for the course. It made it clear that the course would require work, which is important. It also told you when everything was due and how much everything would be worth. It was detailed enough in the description of the course; I do not really have anything to say that would make it better.
- I did not realize that the homework assignments are 45% of our grade. It seems excessive. The case study assignment is not clearly explained and there seem to be contradictions between the expectations here, in the rubric, and on the check list. Also, it says that the midterm is 20% and 15% of the grade.
- The syllabus is easily the longest of any course I have ever taken. Very comprehensive and detailed.
- Yes, the syllabus was well-written and provided us with what was going on that day. I often visited the syllabus.
- Yes the course syllabus was clear. I think that the case study part could be a little more detailed.
- I think this syllabus is very comprehensive and often it is helpful for us to prepare for the course.
- The syllabus was very inclusive. A better understanding of grade system might have helped.
- The course syllabus supplies adequate information about the class and is well structured.
- I think the syllabus was adequate.
- The syllabus I felt could have been clearer in the grading scheme. I found it difficult to understand what percentage of what went where.
- The syllabus is very well done, gives students a great idea of what the course will be like, the expectations, and also contains useful links. The best, most comprehensive syllabus I've ever seen in any of my classes.
- I feel that the syllabus does a very good job of informing the student what they will be doing in the course.

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 (17 of 28)

- I can't really suggest any changes.
- My main dislike of the course was the series of lectures in the first half of the course. I would suggest maybe breaking up the standard lectures by group activities, as I was often bored of taking notes after the first 20 minutes of class.
- Some of the homework assignments spent too much time of finding examples that were so esoteric that the overall meaning of the assignment was often lost.
- I thought that the homework problems were very challenging and helped prepare me for the midterm. I think more homework problems should be given.
- I liked the course very much. I liked working in groups and dealing with case studies as opposed to lectures. I would not change much, the course well constructed.
- As much as I don't like PBL, I thought this was one of the most interesting classes I've taken at UD. However there were some things that I would recommend. I'm definitely not the best student, but I had a major problem with my group this year. Even though I may not have been the smartest person in my group, I felt like at least when I was in class and we were doing a case study, I was always doing what I could to answer the questions. But I felt like some of my group members took the time as social hour and would just talk about other things. This showed in our quiz scores, and also really negatively affected my learning of the material. I think it would be good to either mix the groups up every once in a while. Also I think when doing the case studies, it would be nice if you got a little more involved. I understand that you don't want to give us the answers, but I also feel like the way you did the case studies, it made the students feel like they couldn't come and ask you a question, which is really important in teaching a course
- I think that the PBL section at the end could use a bit more guidance. Sometimes my group tends to get distracted and then we do not get as much done as I feel that we should. Maybe the class should not be structured in a way where the lecture part and the PBL are somehow integrated more so that half the class is not completely one or the other method.
- I did not feel that the time and effort I put into the homework assignments was reflected by my grade. I worked much better with my group from 342. Perhaps groups should be changed half way through the semester. I liked the addition of the lecture, but I thought that the best part of the class was the discussion of our case studies with our groups. I learned a lot from my group members in a short period of time. Maybe we could do this for an extended period or time, change groups, give presentation, etc to extend this experience.
- I feel I gained much more out of the lecture and problem set portion of the course than the PBL. PBL experiences are heavily influenced by your group. If you are unlucky and put into a bad group, you will have a very long semester. The Case Study assignment was difficult but fair. It was by far the best part of the PBL section of the course. I felt too much time in the course was wasted with group work on other case studies. Much more information could be presented if more lecture was involved. I was very relieved the concept map assignment was dropped. Concept maps are valuable when provided, but incredibly difficult and time-consuming for students to put together. Overall a very valuable course for students interested in life sciences. However, I wouldn't mind if I never had a PBL-based class in the future.
- The only thing I can think of is ranking the students in class on the exams. I don't think that should be done.
- I liked every part of the course. I thought that having lecture in the beginning helped because it gave us some foundation for the later case studies. I like them because there are always underlying principles but you have the freedom also to research what you are interested in. I think that re-writing the case study assignment page to make it slightly more detailed with what the exact elements in it should be would be helpful and also maybe having a real check

in half way through the case study where you have to produce an outline and some article might be helpful for those who are prone to starting it very late.

- This course always make us think about what happened to these food after we eat them. what is the relationship between them? So I think that I have learned a lot from this course.
- More integration between all the systems. I know it was touched on but understanding the bigger picture sometimes makes it easier to understand.
- During the PBL section it is difficult to ensure that all students are doing sufficient outside work. I appreciated that quizzes included and individual grade.
- As I said before, going over the PBL problems to make sure everyone has the same concepts that were supposed to be understood.
- Personally I would have loved the course to contain more of areas such as molecular biology, in addition to chemistry, because modern biochemistry is a combination of many fields. This course was based on chemistry too much, which obviously is not a bad thing since this is for the major, but it would be good to look at some of the topics in the course from more biological perspectives. The material presented in the class was more or less classical material, such as glycolysis, lipid and nitrogen metabolism etc. It would be nice if the course were a little more up-to-date, for example by reading recent publications and break-throughs on the corresponding topics. It would also be interesting and useful to include more on how the incredibly complicated metabolic processes are controlled in the body.
- I can't think of any ways to improve the course.