CHEM 142 A
General Chemistry
Course type: Face-to-Face

Evaluation Delivery: Online
Evaluation Form: B
Responses: 325/462 (70% very high)

Taught by: Colleen Craig, Munira Khalil, Raymond Jin
**Instructor Evaluated: Colleen Craig-Lecturer**

**Overall Summative Rating** represents the combined responses of students to the four global summative items and is presented to provide an overall index of the class's quality:

| Combined Median | Adjusted Combined Median |
|---|---|
| 4.1 | 4.8 |

(0=lowest; 5=highest)

**Challenge and Engagement Index (CEI)** combines student responses to several *IASystem* items relating to how academically challenging students found the course to be and how engaged they were:

**CEI: 5.2**

(1=lowest; 7=highest)

**SUMMATIVE ITEMS**

| | N | Excellent (5) | Very Good (4) | Good (3) | Fair (2) | Poor (1) | Very Poor (0) | Median | Adjusted Median |
|---|---|---|---|---|---|---|---|---|---|
| The course as a whole was: | 325 | 22% | 41% | 26% | 9% | 2% | | 3.8 | 4.6 |
| The course content was: | 325 | 24% | 40% | 28% | 8% | 1% | | 3.8 | 4.5 |
| The instructor's contribution to the course was: | 324 | 45% | 35% | 14% | 5% | 1% | | 4.4 | 5.0 |
| The instructor's effectiveness in teaching the subject matter was: | 324 | 42% | 36% | 15% | 5% | 1% | | 4.3 | 5.0 |

**STUDENT ENGAGEMENT**

| Relative to other college courses you have taken: | N | Much Higher (7) | (6) | (5) | Average (4) | (3) | (2) | Much Lower (1) | Median |
|---|---|---|---|---|---|---|---|---|---|
| Do you expect your grade in this course to be: | 324 | 4% | 16% | 22% | 30% | 17% | 6% | 5% | 4.2 |
| The intellectual challenge presented was: | 323 | 19% | 36% | 25% | 15% | 4% | 1% | | 5.6 |
| The amount of effort you put into this course was: | 323 | 19% | 35% | 23% | 17% | 4% | 1% | | 5.6 |
| The amount of effort to succeed in this course was: | 323 | 31% | 34% | 22% | 10% | 3% | | | 6.0 |
| Your involvement in course (doing assignments, attending classes, etc.) was: | 322 | 27% | 34% | 20% | 14% | 3% | 1% | | 5.8 |

On average, how many hours per week have you spent on this course, including attending classes, doing readings, reviewing notes, writing papers and any other course related work?

**Class median: 10.3 Hours per credit: 2.1 (N=320)**

| Under 2 | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 | 18-19 | 20-21 | 22 or more |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4% | 10% | 13% | 16% | 16% | 14% | 12% | 5% | 4% | 2% | 3% |

From the total average hours above, how many do you consider were valuable in advancing your education?

**Class median: 7.6 Hours per credit: 1.5 (N=319)**

| Under 2 | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 | 18-19 | 20-21 | 22 or more |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4% | 13% | 15% | 18% | 17% | 15% | 7% | 4% | 3% | 2% | 1% | 2% |

What grade do you expect in this course?

**Class median: 3.1 (N=319)**

| A (3.9-4.0) | A- (3.5-3.8) | B+ (3.2-3.4) | B (2.9-3.1) | B- (2.5-2.8) | C+ (2.2-2.4) | C (1.9-2.1) | C- (1.5-1.8) | D+ (1.2-1.4) | D (0.9-1.1) | D- (0.7-0.8) | F (0.0) | Pass | Credit | No Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5% | 25% | 19% | 17% | 12% | 8% | 7% | 3% | | 2% | | | 1% | | |

In regard to your academic program, is this course best described as:

**(N=315)**

| In your major | A core/distribution requirement | An elective | In your minor | A program requirement | Other |
|---|---|---|---|---|---|
| 42% | 28% | 3% | | 25% | 3% |

**STANDARD FORMATIVE ITEMS**

| | N | Excellent (5) | Very Good (4) | Good (3) | Fair (2) | Poor (1) | Very Poor (0) | Median | Relative Rank |
|---|---|---|---|---|---|---|---|---|---|
| Course organization was: | 321 | 30% | 37% | 24% | 7% | 2% | | 4.0 | 8 |
| Sequential presentation of concepts was: | 323 | 30% | 41% | 22% | 6% | 1% | | 4.0 | 10 |
| Explanations by instructor were: | 321 | 37% | 36% | 19% | 6% | 1% | | 4.2 | 5 |
| Instructor's ability to present alternative explanations when needed was: | 323 | 34% | 37% | 20% | 7% | 3% | | 4.1 | 9 |
| Instructor's use of examples and illustrations was: | 323 | 46% | 32% | 18% | 3% | 2% | | 4.4 | 3 |
| Instructor's enhancement of student interest in the material was: | 323 | 35% | 30% | 24% | 11% | 1% | | 4.0 | 7 |
| Student confidence in instructor's knowledge was: | 322 | 57% | 29% | 10% | 2% | 1% | | 4.6 | 2 |
| Instructor's enthusiasm was: | 324 | 59% | 30% | 9% | 2% | | | 4.6 | 1 |
| Clarity of course objectives was: | 323 | 36% | 36% | 21% | 6% | 1% | | 4.1 | 4 |
| Interest level of class sessions was: | 322 | 24% | 29% | 33% | 11% | 3% | | 3.6 | 15 |
| Availability of extra help when needed was: | 323 | 33% | 34% | 25% | 8% | 1% | | 4.0 | 16 |
| Use of class time was: | 323 | 35% | 35% | 23% | 6% | 1% | | 4.1 | 6 |
| Instructor's interest in whether students learned was: | 323 | 39% | 31% | 20% | 8% | 2% | | 4.1 | 12 |
| Amount you learned in the course was: | 323 | 28% | 39% | 23% | 9% | 1% | | 3.9 | 11 |
| Relevance and usefulness of course content were: | 324 | 33% | 36% | 19% | 11% | 1% | | 4.0 | 13 |
| Evaluative and grading techniques (tests, papers, projects, etc.) were: | 323 | 25% | 33% | 24% | 14% | 3% | 1% | 3.7 | 17 |
| Reasonableness of assigned work was: | 323 | 25% | 32% | 26% | 12% | 3% | 1% | 3.7 | 18 |
| Clarity of student responsibilities and requirements was: | 324 | 31% | 37% | 23% | 8% | 1% | | 4.0 | 14 |

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**STANDARD OPEN-ENDED QUESTIONS**

**Was this class intellectually stimulating? Did it stretch your thinking? Why or why not?**

1. Not particularly, as I took an advanced chemistry course in high school, and this course covered mostly the same material.

2. Not really because most of the topics I already learned in high school.

3. I've taken courses about chemistry before, so it wasn't as much stretching my thinking as giving me the basics in a stronger manner, solidifying my knowledge.

4. I had already taken two chemistry courses so it was not very intellectually stimulating.

5. It did made me think a little more than what I am use to because there were some new concepts that I did not know of and I had to study to understand it.

6. Yes, it made me think about how the world functions around me and even with things that we can't see.

7. I learned new concepts, so yes it was intellectually stimulating, but I wouldn't say much creative thinking was involved, it was mostly concept learning.

8. Yes, I believe it forced me to think more broadly about topics that I had skimmed over in my high school years.

9. It was extremely stimulating - hardest class I've ever taken for sure. So much material covered in short amount of time. So much expected for us to learn by exam time.

10. Yes, it was all new for me

11. this class, especially with the labs, forced you to apply your knowledge of the subjects

12. This class was stimulating and did stretch my thinking because some of the concepts were hard and needed effort to understand.

15. Yes there were often concepts that I had to review outside of class to fully understand.

16. Yes, this class was very difficult for me and we covered topics that I have never touched upon before

17. Not particularly because I already knew most of the material.

18. Quantum mechanics unit was the most challenging

19. It was challenging

20. Most of the material was not new to me so it was not a very intellectually stimulating class for me.

21. Yes.

22. This class covered alot of material so it really challenged me to keep up

24. Yes because it challenged me to study more and efficiently.

25. Yes, it was challenging but I learned a lot of knew concepts that were never even considered in high school chemistry.

26. Yes because it was new content.

27. This class was not very intellectually stimulating because it taught us how to answer specific problems and did not focus on the "why" of processes. However, given that this is a general chemistry class, I did not expect this class to do so, and it provided a solid foundation for future chemistry classes that may be more stimulating.

28. yes it did

29. Yes because it presented the same topics in I learned in high school chem, but on a higher level of learning.

30. It definitely stretched my intelligence. It's a hard subject to understand and you have to work hard if you don't understand.

31. Yes, it challenged me through making me go through tons of practice to have a deep understanding of the material.

32. Yes, it pushed me to fully understand concepts as oppose to memorize formulas.

33. Yes, the class allowed you to continuously build upon your knowledge.

34. Sure, I did in fact learn much about chemistry that I did not already know.

35. Already took AP exam so... No, not really

36. This class was somewhat intellectually stimulating because it's interesting how some of the topics in the course can be applied to real life situations.

37. A bit. I learned most of the things already and failed to review them.

38. I did find this class to be intellectually stimulating since it wasn't afraid to ask the weird questions that would really test your understanding of the topic rather than just how to answer the questions.

39. Yes it did because it made me look at chemistry at a whole new level

40. It was challenging, but not very interesting, as it felt mostly like review from AP Chemistry.

41. Yes. I enjoy certain aspects of the course. The material was interesting.

42. Yes, even though it was tough, it builds you as a stronger student. Even though I may be thinking that my grade does not show what I am capable of, it will build me to hopefully one day show what I can do in the next chemistry course, if I do get to it.

43. When I wasn't familiar with the material, it completely stretched my thinking. I understand the wave-particle duality much better, and the class made me rethink certain principles.

44. Not really, I normally only had enough time and energy to think about what was being taught and trying to understand the basics.

45. Yes

46. This class was very intellectually stimulating. It was largely a review, because I took IB chemistry in high school, but the new material definitely stretched my thinking.

47. It was very difficult. I came in with very little chemistry background, expecting this to be a mostly basic chemistry course. However, it was immediately expected that every student had a large chemistry background (AP chemistry classes in high school), and so basic chemistry topics were never presented, or were presented in a fashion that was as if everybody knew it.

48. A large reason that the course was stimulating for me was Professor's Craig's enthusiasm for the course material. The course did stretch my thinking because the subject material was new to me.

49. Yes it did, because it explored topics and concepts I hadn't encountered before. Thus, it I had to work harder at understanding the new material and stretch my mind in that sense.

50. Very, it was hard and challenging

51. Yes because new topics I never learned were presented in lectures

52. It challenged me to learn about new topics but did not stretch my thinking because much of the knowledge presented was trivial.

53. I took AP chem in high school and tested out of this course, but took it as a refresher so it didn't really stretch me. But it would have if I hadn't taken it before.

54. The concepts that were taught required a lot of practice in order to apply them which required a bigger understanding of them. They are difficult to grasp without application which is a big part of the workload assigned.

55. yes, most of the stuff were new and interseting.

56. Yes, there were many complex topics, especially about the transition from molecular to physical

57. Yes. I find the chemistry concepts especially more stimulating when applied to the lab sections. When I can apply it to real life, I find it more stimulating.

58. This class was very intellectually stimulating, because it gave me a full sense of introductory chemistry.

59. Yes, although much of the content was review from high school, but I gain a much better conceptual understanding of everything.

60. Yes the class was some what stimulating learning some of the equations and balancing could help later in my education.

61. Yes, this course helped me think more like a chemist and made me a better problem solver.

62. This class was very stimulating for me. I had to learn lots of new topics and truly understand what was happening to complete the homework.

63. I have taken Chem 142 before so this class was mostly all review, but it did give me a few new perspectives on the content in the course that I didn't have before.

64. Yes, because most of the learning was outside of the classroom. Most of the chemistry material on ALEKS was all new to me.

65. I had taken three years of chemistry in high school so most of this class was review so it was not the most intellectually stimulating for me.

66. Yes because it forced me to expand my knowledge on general chemistry.

67. I think for the most part it was a good beginning intro class to chemistry, teaching us the basics of general chemistry.

68. Yes because I've never heard some of the ideas this class taught.

69. This class really was intellectually stimulating. I believe this is so because the teacher made it this way and the topics really were presented in an interesting way.

70. Yes, i enjoy learning chemistry more than any other subject.

71. Yes, it has allowed me to gain a deeper understanding of topics that once confused me greatly in high school chemistry.

72. Yes because it was very challenging.

73. Yes, the class was intellectually stimulating and stretched my thinking. I learned a lot of new content in a relatively short amount of time. I was also able to use teamwork skills in discussion section and have hands-on learning in lab.

74. I have always been a Chemistry and Biology person in high school and I was surprise that some of the stuff that I learned in high school is not how chemistry in college is taught so I had to learned to view it a different way.

75. Yes she always tied the concepts to real world applications and demonstrated methodical shortcuts during calculations

76. Yes it was. The content overall was not easy.

77. I found this course extremely interesting. As an Earth and Space Science major, understanding the chemistry of the Earth is a key foundation for my studies. The material I have learned has applied to my other coursework in my major directly.

79. Chemistry 142 was a solid, challenging course for me in consideration of my lack of background in chemistry. The midterms in context of the curve were very difficult to do well on in respect to some other people.

80. I think the lecture content was intellectually stimulating. It inspired me to think about relationships in science in mews ways. However, the assigned ALEKS homework did not achieve this in any way. ALEKS homework was more frustrating than helpful and the problems did not reflect exam material.

81. Yes, I had not seen much of the information I was being taught. I found it all very interesting.

82. Yes, this class was challenging for me which made me stretch my way of thinking.

83. Yes, the class was an excellent introduction to general chemistry and brought up plenty of topics that I found interesting.

84. Yes, in class questions allowed me to practice applying what I learned.

85. It was stimulating because it went in depth on complex and microscopic topics.

86. Yes, it provided a challenge.

87. I guess so. I had to learn to think in terms of chemistry, which I hadn't really had to do before.

88. This class enhanced my ability to execute specific chemistry procedures and understand more basic chemistry concepts. It extended my thinking.

89. They go over so much material in little time which is challenging.

90. Yes. I have no taken a chemistry class since 10th grade in high school and all the material we have covered in class was mostly new and challenging to me.

91. The class was intellectually stimulating it was a nice refreshing my memory of the chemistry stuff I learned in high school.

92. Yes and no. I really enjoyed quantum mechanics and the conceptual aspects of chemistry. Everything else was boring since it felt very basic.

93. A lot of the content was review of previous knowledge in high school, but I would say it definitely pushed that knowledge further and challenged me.

94. Yes. I had very little knowledge of chemistry coming in to this class and therefore everything we learned was basically new to me. I found it to be very interesting especially from the textbook the way atoms and molecules orientate themselves.

95. Yes, because we learned that an election behaves like a wave and I think that's dope

96. yes, had to work hard to understand concepts

97. Yes but because I have always struggled with chem

98. Not especially, it was mostly about know information and being able to apply it, without too much synthesis.

99. Loved it

100. Because a lot of the materials presented were intuitive in nature, the class did not stretch my thinking that much.

101. Yes

102. Yes, I found it very engaging and stimulating. I enjoy chemistry but it was also very difficult

103. This class had challenged me mentally and though I will not be able to do so well, I've learned how to study and how to be better if I were to take this course again.

104. Yeah I think it did. I've always loved science, but chemistry was the most difficult. Each time I take it though, it feels like I have more of a grasp on it and topics that I previously struggled on are now easy. Dr. Craig is also just such an energetic teacher and I can tell she really cares about my learning, so that makes me more excited. I enjoy going to lectures because she always makes me smile or laugh while still teaching the material really well.

106. Yes because materials learned are accumulative so past materials needed to be mastered so that it could be applied in the current lesson.

107. Kind of. I knew many of the subjects, my problems arose in the minute details. I understood all the concepts beforehand, so it was just the details.

108. It was pretty straight forward since chemistry is applying concepts and using formulas.

109. Yes, very hard topics

110. Yes the class expanded my thinking when we were introduced to topics i was not already familiar with.

111. yes, it is. I feel like over time during this quarter I have been making friends with Chemistry all over again.

112. Yes, it was a difficult and new class with interesting topics.

113. No, it caused stressed and hardship but it just comes with learning concepts that are difficult to understand.

114. This class was very stimulating and defiantly helped my learning.

115. I wouldn't say this stretched my thinking. It was fairly interesting content though.

116. The concepts introduced weren't very difficult; however, these concepts did stretch my thinking. They were interesting concepts with no possibility on where they ended.

117. Not too mich because I have learned a lot of the material before.

118. Yes because they were difficult topics to comprehend.

119. Yes! Colleen's lectures were so well done they made me very interested in chemistry.

120. Yes, some of the concepts were abstract

121. Yes, this course helped stretch my minds by presenting problems in a new way. Also connecting equations I have previously learned to reactions and chemistry. The lab assignments also helped show the real life usage of Chemistry.

122. Yes because chemistry is hard.

123. This class did stretch my thinking because I don't have much experience with chemistry since I only took a general chemistry class in high school.

124. no

125. Yes, the concepts were challenging. Effort to learn the concepts have to be taken outside of class.

126. it could have been interesting but lectures covered the basics instead of more complicated material

127. It was intellectually stimulating, but it did not make me stretch my thinking. I have learned almost all content so far in high school.

129. Yes it did stretch my thinking. Very meticulous work.

130. It stretched my thinking to the point of it being a little too much. I really struggled to grasp one concept before we quickly moved on to the next.

131. I already had credit for this class before taking it, so I already knew all the concepts that were brought up, so it did not really stretch my thinking.

132. Yes, it is mainly why I enjoyed certain parts of the class. The material cannot be learned passively, you must actually delve into the concepts to further your thinking.

133. Yes. It applied topics on top of topics which I thought was interesting.

134. Yes, and Professor Craig made it even more interesting!!!

135. I think Chem 142 overall is challenging but fun to learn. It definitely stretches my thinking and I like to study chemistry.

136. Yes, it was stimulating. I had to stretch my thinking. The tests were tricky sometimes, and the labs were rigorous.

137. It was stimulating in the way that it added more context and depth to information I was already relatively familiar with through labs and historical context.

138. This class was intellectually stimulating because I thought I knew the material from highschool but evidently didn't know as much as I thought. It stretched my thinking by going taking familiar topics and going deeper.

139. Yes. Yes. Dr. Craig did an excellent job making the class think.

140. Yes it was intellectually stimulating and stretched my thinking because it contains difficult content that pertains to our world.

141. Yes! As little confidence I have in the class, I do respect it more as an interesting class, now that a few more things make sense to me than they did in high school.

142. Yes the material was intriguing and I learned a lot of new concepts from it.

143. I knew remembered a lot of this material from high school chemistry, but I was more intellectually stretched by this course because of its higher reliance on individual work and effort relative to a high school class

144. No, It was just a pre requisite in my mind.

145. Yes it was intellectually stimulating, but didn't stretch my thinking because I am familiar with the topics covered.

146. yes, the problems presented were intellectually stimulating to ponder and solve

147. It didn't stretch my thinking. I just practiced and memorized the teachings without any critical evaluation of them.

148. There were not any topics that I struggled to understand. Quite easy compared to physics.

149. Yes. It was a fair challenge to my current intellect

150. Yes. The concepts were presented in a challenging matter.

151. Yes, because it is my first year it really opened my eyes to the endless self study hours that a college course requires compared to high school classes.

152. Chemistry to me was someone that I learned long time ago. Many of the concepts were reviewing, however, much other concepts were first to encounter. It definitely stretched my thinking.

153. No it was not, I personally only rake it for my major

154. Nothing

156. No because most of the material were things that I learned in high school but had forgotten. This class was mostly a refresher.

157. Yes and yes. Fast paced but, if you attend lectures, not difficult to learn.

158. Yes it was because it was difficult.

159. As stated in my TA evaluation, since I was learning new material, yes it was somewhat intellectually simulating.

160. Yes, the class did stretch my thinking by presenting me with problems that combined several concepts that were learned at different time periods to reinforce them.

161. This class was intellectually stimulating, and it did stretch my thinking. This is from the fact that I had to learn mostly on my own.

162. Yes it was intellectually stimulating. It challenged me to work supper hard for what I deserve.

163. yes! took thought to understand and solve problems

164. This class wasn't that intellectually stimulating because you didn't have to dive outside the presented material to succeed.

165. I feel that much of this class was very structured and didn't leave much room for "stretching of thinking" and being intellectually stimulated. There was too much to learn in a short amount of time to have time for extra interest in the topics we were learning.

166. Yes. It was interesting.

167. Yes this class was intellectually stimulating and it did stretch my thinking. This class demanded students to learn many topics so even coming from a background of chemistry I still had to work hard to learn new concepts.

168. Yes, it forced me to use my critical thinking skills to see if I was doing the lab correctly.

169. Yes, Colleen makes sure to apply what we learn to things we encounter in real life.

170. This class was intellectually stimulating and it did stretch my thinking because I was able to connect key concepts rather than just focusing in on one.

171. Yes,

172. Yes very interactive and application based

173. Yes, but I'm not very interested in Chemistry so....

175. It was very difficult

176. yes and yes because i was forced to spend a lot of time studying and trying to teach myself

177. It was mostly review for me at this point due to the level of the classes I took in highschool.

178. This class was definitely intellectually stimulating because even though I was familiar with Chemistry on a lower level, this course used that basic understanding to build-up more complex concepts.

179. It was a little and at times it was too much. Sometimes I could not understand the math in ALEKS. Aleks was way more complicated than class and took too much time to finish.

180. Yes it did but I think it was a to high if jump so I felt confused

181. This class was intellectually stimulating because it definitely expanded on the chemistry that I learnt in high school

182. Most of the material except rate laws and gases were already familiar to me so it was not particularly intellectually stimulating.

183. already knew a lot of what we learned so it was just a refresher mostly

184. Yes, it was good content.

185. Yes the class required a lot of thinking

186. This class was very challenging and really made me think. The concepts were difficult, but not impossible to learn, and were very interesting.

187. The teacher presented the material in An interesting new way

188. Yes/no. This course was a review for a number of concepts of chemistry, it was just much harder and faster pace.

189. Yes. It pushed me very hard. Because of the rate at which one has the grasp and master new subjects.

190. A little, it was mostly review for me.

191. Yes, broadened my scope.

192. This class was very intellectually stimulating and presented chemistry in a new light for me.

193. A lot of the material was review but the class was intellectually stimulating for the most part. It stretched my thinking a little bit, but that was a lot of the new stuff.

194. Yes, the ideas were very complex and hard to understand, and it was very challenging for me.

195. I found this class to be very intellectually stimulating. The content was very relevant to what I want to major in.

196. This class was intellectually stimulating in some ways in that it provided mathematical basis for chemical and physical phenomena. However, it rehashed many topics that were learned in previous high school courses such as stoichiometry.

197. No - because I had previously taken AP Chemistry in high school, the material in this course was review from the previous course.

198. The topics were interesting and added to my previous chemistry knowledge. I enjoyed the opportunity to utilize what we learned in class and apply in labs.

199. Yes. as one of the requirements was to relate things that you are unable to see with visible things in the world, which is no simple task and happens to be mentally draining.

202. yes, because I built on materials that I had learned in previous classes.

203. Yes. We covered a lot of material and I better understand chemistry now than I did before.

204. Yes, it was both intellectually stimulating and it did stretch my thinking. I had taken two and a half years of general chemistry and two IB levels of chemistry, and I learned more in this course and gained a deeper understanding of the information in this quarter than I did in all of those years combined.

205. I deepened my understanding of general chemistry and further strengthened my foundation of the subject from what I had already known in high school.

206. It was intellectually stimulating because there were so many things to consider when solving problems.

207. Yes, it was challenging but not unobtainable

208. Yes, this class was intellectually stimulating. The instructor explained the concepts well.

209. This class was intellectually stimulating because it taught material that was beyond me and took a lot of effort to learn.

210. Many of the concepts were new to me and stretched my mind.

211. Yes, the topics and examples presented definitely made my think very in depth about chemistry. I always had to be completely alert and awake in lecture so that I could completely understand everything and use basically all of my mental capacity to do so.

212. It felt like a lot of memorization and I'm not sure I actually learned concepts as much as just "plugging and chugging".

213. This class was intellectually stimulating. It stretched my thinking because it was more difficult than all of my other classes.

214. Yes because we did example questions that required applying what we learned in order to do the problem.

215. Yes. Concepts were challenging

216. Yes, as a student with little to no prior knowledge of chemistry, it was very challenging and intellectually stimulating to engage in chemistry.

217. This class was stimulating in that it required me to take on particular problems in a conceptual manner, rather than just arithmetic formulas.

218. Yes, challenging but also rewarding

219. Yes it was. I learned that Chemistry knowledge are cumulative, they link together.

220. Yes it was incredibly stimulating, I learned a lot more in this course than I did in any other science classes that I've taken.

222. Yes, it made me think about chemistry in a different way and made me think about why things were the way they were instead of just going through the motions

223. learning chemistry.

224. I found a lot of the material was similar to what I learned in high school; however, there were a lot of later topics that were new to me and required me to think more constructively and practice for them. It stretched my thinking because I needed to truly understand the purpose of topics covered to be able to do well in the class.

225. I already learned most of the material in high school so it was not that hard for me. Labs were challenging though.

226. This course was intellectually stimulating because it forced me to think harder to understand concepts.

227. Not particularly, I knew many of these concepts on a very basic level beforehand.

228. Yes, compared to my chemistry courses in high school, I was forced to think much further to get to the answer.

229. Yes. I have a deeper understanding of chemistry concept because of this class.

230. Yes, because chemistry is difficult for me I have to spend more time figuring things out and learning the material in order for me to understand everything.

231. Yes, it forced me to begin prioritizing my time and study schedule.

232. Yes, Dr. Craig simplified complicated concepts with easy to understand examples and worked through many example problems that were relevant to the course.

233. yes because the class involved things that can't be seen with the naked eye (i.e. atoms and molecules), so I had to imagine the reactions and imagine what was going on in order to understand how matter works on the macroscopic level.

235. Yes, because I had not learned much of this material before and had to go at a fast pace

236. Yes, because it introduced to several concepts that I didn't know before. Also, lab was also helpful in applying my knowledge.

237. Yes, I really don't enjoy chemistry and took it because I need it for bio 200, but I must say Dr. Craig made this class very exciting and made me actually enjoy learning chemistry this quarter.

238. Yes because I had to do much more of understanding lectures than beyond lecture time during our normal class schedule.

239. Yes, the material was challenging and mostly new for me

241. Yes it was. The instructor has a lovely way of speaking that is pleasant to listen to and is often humorous which helps with engagement.

242. Yes, the concepts discussed required thorough review in order to fully understand the material.

243. this class was very stimulating and the labs/discussion sessions helped stretch my thinking because they helped me do it myself to understand the concept.

244. Near the end the concepts became harder to grasp.

245. Yes it was cool but hard

246. Yes because there were new concepts we had to think about.

247. Yes. I learned a lot of new concepts very quickly to keep up with the class.

248. This class was a hot mess. I really like the lectures and I felt like I learned a lot from them, but I also found myself frustrated by Aleks and clarity of the exam content. I feel like I learned a lot, but that my grade will be a poor representation of that because the exam content and course work did not match up very well.

249. VERY MucH itwas very hard

250. Yes.

252. Yes, this class was intellectually stimulating. It helped stretch my thinking through the abstract concepts and theories related to chemistry.

253. The class was intellectually stimulating. Understanding of some topics did not come immediately, so some topics stretched my thinking.

254. Yes, it introduced new concepts and techniques that I hadn't seen before.

255. Yes

256. Very stimulating, it often forced us to ask ourselves questions.

257. I definitely enjoyed the class as a whole, and it was incredibly difficult, but I hope to continue in the series with Pr. Craig.

258. Yes, because I hadn't learned many of the concepts before the class.

259. I found it certainly introduced me to a number of new concepts and refreshed me on a number of old ones. It stretched my thinking by giving me a lot of new material, but didn't always help "teach" me all the time.

260. It was a good class. I've taken chem before but it was still hard.

**What aspects of this class contributed most to your learning?**

1. Panopto recordings were extremely helpful.

2. The textbook readings and practice exams.

3. ALEKS

4. The aleks homework.

5. The discussion section contributed the most to my learning. The aleks homework would be second.

6. The readings.

7. All of the aspects of the class reinforced each other in my learning. The reading in the textbook introduced a new topic, the lecture clarified it, and the online ALEKS objectives applied the concept into real world situations.

8. The easiness of the presentations to follow and the instructor's enthusiasm.

9. Lectures were very good! Worksheets given in quiz section were also helpful.

10. The discussion sections

11. the slides were very informative

12. There was a good balance of knowledge in the course and helped me to learn.

13. My TA (Andrea Chong) was absolutely wonderful. She was super helpful during discussion sections and during labs.

15. Doing practice problems from the book that related to material in lecture.

16. The examples we worked on in class, packets in quiz section, and the labs

17. I think attending lectures contribute most towards my learning

18. ALEKS, Chem study center in BAG. Sheer willpower to understand the content

19. It was challenging

20. The lab sections contributed most to my learning.

21. The teachers ability to teach the material.

22. doing example problems in class

23. Lectures and ALEKS

24. The help from my colleagues.

25. The online objectives through ALEKS

26. The lab contributed to most of my learning.

27. I believe that the labs and Aleks helped me learn the most because the labs solidified the information in class and Aleks gave me a heads-up to the content in class. This way, I made the most use of lecture and quiz time.

28. time management

29. Craig's organized lectures and labs.

30. Lecture was helpful than the rest. Lab is something that expands my intelligence but doesn't truly help with preparing to midterms. It just another section to Chemistry.

31. Being able to print out the slides so I can focus on what Craig is saying and not just copying stuff down is super helpful. Also, as much as I hated ALEKS, it made me learn the material.

32. Quiz section assignments, ALEKS, and suggested end of chapter questions were all helpful in solidifying my understanding of the course content.

33. I really learned about how much math goes into chemistry which was very different from what I learned in high school.

34. The teaching ability of the professor, and her way with words and examples that just made the class seem easier than it really is.

35. The details of the material

36. The examples shown in the lecture contributed the most to my learning.

37. Worksheets and practice exams

38. I would say the EOC and the practice midterms were the most helpful to my learning since it gave concrete examples of what we were expected to know and what to expect on the exams.

39. Gaining a more in depth view on chemistry

40. ALEKS, Lab, Discussion worksheets

41. Aleks

42. Going to lecture, I don't mind getting lectured at for an hour because I think it's my best bet to get the knowledge I need to do well in this course. ALEKS is also very helpful because you know where to go and get practice on your own time. I really wished it was worth a bit more for our grade, because it really shows our effort when we decide to actually do it.

43. ALEKS and Dr. Craig's examples were very helpful.

44. Aleks when I had less topics I took time throughout the week to do them and was able to take notes and really learn objectives.

45. ALEKs (as much as I hate to admit it), lecture

46. Professor Craig is extremely good at explaining concepts and seems very dedicated and passionate.

47. Lab. The lab portions of the class were the most interesting, and taught me the most. It showed me what chemistry actually explored, and it allowed me to discover on my own what chemistry was.

48. Attending lectures and office ours contributed the most to my learning of the course material.

49. Surprisingly, Aleks, because it allowed me to practice and master the concepts presented in class. And labs are a good source as well because you are physically working with the concept.

50. my study groups help alot

51. Lectures

52. The online coursework contributed largely to my success in learning

53. I found all of it helpful. Dr. Craig is a genius and an excellent lecturer who always answered your questions. But ALEKS helped me apply the material and do the problems, and the quiz section gave out packets that I found very helpful.

54. The ALEKS assignments and the lectures were the most informative. ALEKS provided opportunities to apply the material as well as providing a lot of practice. The lectures effectively covered the material in the time provided and allocated for examples to help with understanding.

55. class work

56. The effectiveness of the prof

57. Repetitive practice of chemistry math problems (ALEKS) which helps me memorize the methods. The professor's step-by-step instruction do solve chemistry math problems. The professor's Panopto Recordings, which help me learn at my own pace. Highlight key concepts to memorize, like chemistry laws. Mnemonics to remember chemistry key concepts.

58. The lectures are very effective, and worksheets also help to understand terms by ourselves.

59. The lectures, availability of lecture notes on Canvas, and the in-lecture examples.

60. Doing the labs.

61. I really enjoyed how carefully and well presented the lecture slides were and the examples Dr. Craig used to illustrate the main concepts.

62. The TA's and the instructor held lots of sessions for review and help.

63. The professor in lecture and the experimentations in the lab.

64. I learned mostly from ALEKS and from doing practice exams.

65. The online ALEKS really helped me learn the material.

66. The lectures and ALEKS assignments contributed most to my learning.

67. Lectures, bookwork helped review concepts

68. The lecture class and the worksheets in the quiz sections.

69. The lectures and the online homework on Aleks were the aspects that contributed most to my learning.

70. Working on aleks and worksheets.

71. The vast amount of examples we got during lecture as well as the practice exam packets we were given access to contributed greatly to my learning.

72. Aleks.

73. I think the labs and lectures contributed the most to my learning. I learn about the concepts in class and then see the applications in lab.

74. At first I really didn't like the ALEKS because some of the objectives are a lot to handle in a week but slowly I started to really like ALEKS because it's an extra set of practice for the things that we're learning in lectures. I also really appreciated how the notes and lectures are online so I can look ahead and rewatch if I get confused during the lecture.

75. Lecture, Labs, Study groups, Discussion Section

76. Taking notes during lecture and doing the ALEKS.

77. The preparation for lab each week has given me insight into the value of preparation before experiment-considering the lab material over the days prior to lab sessions, and considering how i will perform the experiments and what I am trying to accomplish before I begin the experiment has reshaped my approach to laboratory science.

78. The aspects of this class that contributed the most to my learning was Dr. Craig's lectures. They were always engaging and stretching my ideas about chemistry.

79. Lectures, ALEKS.

80. Working with my classmates on worksheets in the quiz section was the most beneficial part of reinforcing concepts. I also enjoyed this aspect of the course most.

81. The teacher's passion and enthusiasm for the material she teaches made it really fun and easy to learn the material.

82. Lecture and the textbook most contributed to my learning.

83. The online aleks program. I often find myself covering topics in aleks prior to when we covered them in class.

84. Having the slides and taking notes on them.

85. The lectures and office hours dis the most. Practice problems helped too.

86. The online ALEKS program and examples shown in lecture.

87. Actually it might have been doing ALEKS. The format is extremely frustrating, but I suppose all of the practice helps you learn. I wouldn't have done many practice problems otherwise.

88. Ability to easily access correct procedures for course calculation-based problems through ALEKS. Lectures guided studying to some extent.

89. The challenging aspect of the class.

90. Lectures and end-of-chapter questions.

91. The lectures I think contributed the most to my learning.

92. The lectures, labs, and reading the book.

93. What contributed most was probably the ALEK assignments. As much as I hate and get frustrated with the program sometimes, I felt like it was very beneficial in progressing my learning. It always feels very rewarding to see the pie increase, and generally the explanations are very helpful.

94. I would have to say ALEKS did because it took up the majority of my time in this course. Almost all of the outside work in this class was spent doing ALEKS problems.

95. Craig's Lectures

96. lectures

97. Discussion I can have my questions answered and explained to me

98. ALEKS and lectures.

99. Colleen is awesome

100. The lectures and Panopto videos.

101. The lectures and Aleks

102. For lecture, review of terms and equations, explanations of problems. The worksheets from quiz sections as well

103. Lectures were easy to understand and a good resource for studying.

104. The ALEKS assignments were the most helpful because of all the extra practice, but I feel like I would still need a real person to explain a topic to me, otherwise it would take me forever to figure out the pattern myself.

105. explaining the concept

106. ALEKS

107. Practice exams. The first was given relatively late, but I appreciate the fact that Dr. Craig gave it to us earlier the next time because we asked! She's a great professor.

108. Definitely using Aleks helped me grasp the topics.

109. ALEKs because I would do that before coming to class--effectively learning the material before the lecture

110. The lecture. I always feel like I learn the most from lectures because I am always engaged.

111. How to solve problems like a scientist does.

112. Professors ability to adaquetly teach and explain.

113. Homework

114. Leek was the most useful aspect of this class in my learning.

115. The discussion section with the TA was probably the most helpful because I could ask questions and get an explanation until I understood it.

116. Dr. Craig contributed to my learning the most. She's truly in it for the student and wants to see each of her students succeed, and gives them the opportunity to do so.

117. Lectures and reading.

118. The lectures

119. I think that the lectures did, I actually used to dread chemistry in high school and have really started to enjoy it.

120. ALEKS

121. The lecture pace and examples helped a lot. Craig ensures that all students feel comfortable with the material before proceeding to the next topic. She doesn't hesitate to answer any student's questions in class or at her office hours. Additionally, her practice exams helps prepare you for the exams while also solidifying what topics she would like you to know.

122. The professor is good at providing examples outside of chemistry that can help you understand the concepts.

123. Aleks and the practice exams contributed most to my learning.

124. lecture

125. Lecture notes, discussion session

126. talking to my TA or studying on my own

127. ALEKS and lectures

128. lectures

129. Practice worksheets

130. My TA study hours and lecture notes being online.

131. Lectures

132. Lab section really required us to put our knowledge to the test. Delving into the material allowed us to learn much more than a textbook can teach us.

133. Learning how the labs related to the lecture was helpful.

134. Craig's positive attitude, and general excitement about chemistry!

135. I would say the lecture recording is very helpful and the ALEKS.

136. The labs and ALEKS

137. ALEKS, Quiz Section Worksheets, Recorded Lectures

138. Actual class time and my quiz section.

139. The teacher and question answering session

140. The lectures and the ALEKS contributed most to my learning.

141. I really appreciated how the labs helped to stretch my learning into a more everyday use of my learning, and I think the textbook helped me to understand the concepts stronger.

142. Lecture

143. lecture

144. The quiz section.

145. The aspects of the class that contributed most to my learning were the aleks course and the lectures.

146. The lectures, assignments and labs

147. Lectures

148. ALEKS is actually a great tool. No major issues with that.

149. Professor walkthrough of problems

150. Quiz and review sections

151. Homework and Lectures.

152. Doing homework with Aleks system. (Incorrect means redoing)

153. Reading textbook myself as well as using other resources provided by professor

154. Nothing

156. Colleen's explanations and the worksheets from discussion section.

157. The homework and quiz sections

158. The lectures and Dr. Craig's videos.

159. The ALEKS and EOC problems.

160. The weekly worksheet done in the discussion section was really helpful in providing practice and a time to discuss any question I had about that concept.

161. Aleks

162. The quiz section packets.

163. lectures, readings, problems

164. ALEKS contributed most to my learning because it taught me new material and made me develop my chemistry skills.

165. I feel that the ALEKS problems and in class problems were the most beneficial.

166. Textbook and lectures.

167. The labs really helped because I am a kinesthetic learner, so seeing the concepts we were learning and putting them into practice helped me understand them better.

168. The quiz section where we did the packet of problems as a group.

169. ALEKS!

170. Aleks contributed most to my learning because I was able to do practice problems from the lectures.

171. Lecture and ALEKS.

172. Examples

173. The enthusiasm of the teacher

174. The lectures helped me understand most of my questions and problems throughout the course.

175. Aleks

176. examples in class and working through problems together. also taking extra time to explain difficult topics

177. In some aspects into went into slightly more detail than my highschool chem courses.

178. Dr. Craig. She is hands-down one of the most amazing professors I've ever had, and she contributed greatly to my understanding of chemistry and to my success in the course. Through her great sense of humour, clear explanations, and engaging lectures, I was able to grasp concepts much quicker and stay motivated in this course. Additionally, ALEKS was an incredible asset to my learning, and I wish that the mathematics department would utilize it as a resource as well.

179. Colleen Craig was the best professor.

180. Aleks

181. the examples that the professor provided in her lectures was most helpful because it was easier to relate the information she provided to practice problems

182. Aleks was very helpful and the lecture paired with quiz section was an excellent way to reinforce the content.

183. aleks

184. Office hours and exams

185. Lectures and aleks

186. The lecture really contributed to my learning.

187. Aleks

188. Quiz section packets

189. Examples within the lectures. ALEKS objectives that followed the course.

190. The ALEKS assignments, they helped me practice the things I learned.

191. Book.

192. The teacher lectures and book problems were my biggest asset.

193. Aleks was helpful for doing well on the exams. Lectures contributed to most of my learning. The worksheet packets given in quiz section were helpful as well.

194. Lecture helped the most.

195. I found that lectures contributed a lot of my learning. The lectures were very interesting and well taught.

196. Dr. Craig's detailed yet clear lecture style was well-suited for demystifying difficult chemistry concepts. The well-organized curriculum, suggested practice problems, and supplemental video examples ensured that help was available to anyone who sought it. Additionally, the method in which she requested feedback following each exam showed her genuine interest in tailoring the class to best help her students, rather than a one-size-fits-all teaching style. ALSO, thank you for the detailed calendar/schedule from the beginning of the quarter, which helped organize the various lectures, labs, discussion sections, and homework.

197. The lecture and ALEKS online homework most contributed to my learning in this course.

198. The practice exams.

199. I would say the best aspect of the class, regarding my learning was the discussion section, and the visuals and analogies Dr. Craig provides in lecture.

200. Professor Craig is an incredible teacher. She explains everything with clarity and is always making sure her students understand the topics and feel comfortable moving forward.

202. homework

203. I appreciated the way the lectures were set up with plenty of examples and the way that Professor Craig stopped every once in a while to let students ask questions.

204. Lectures were very helpful as well as doing practice worksheets and practice exams.

205. The worksheets and lectures.

206. The ALEKS homework really helped me understand concepts because it broke them up into pieces.

207. Professor urged us to be diligent in completing calculations to avoid mistakes and be able to interpret processes later.

208. The labs allowed me to apply my knowledge from class. I gained a more thorough understanding of the material and its relevance.

209. Aleks contributed most to my learning.

210. Lectures and discussion section worksheets

211. ALEKS helped me the most.

212. ALEKS objectives

213. Going to lectures and reviewing notes helped me most.

214. Going slowly and thoroughly through examples.

215. Quiz section

216. ALEKS contributed most to my learning as I was given examples of what is right from wrong and taking what I did wrong and learned from it.

217. I believe the active interaction within the class contributed most to my learning by challenging my knowledge of the material at that point in time.

218. Lecture/ quiz section

219. Doing Aleks and office hours.

220. I think ALEKS as well as studying for midterms were very beneficial to me learning course materials.

222. The detailed explanations provided by Dr. Craig

223. the exam review and the EOC questions and the Aleks were the tools I used to learn

224. Having practice problems and ALEKS to further hone my skills in answering problems. But it also allowed me to occasionally better understand a topic in a way that was not as clear as I thought it was.

225. Labs

226. Help from the TA

227. Aleks

228. Examples, example problems by far were the most valuable.

229. Doing homework, participate in class and attending lecture.

230. ALEKS

231. The assignment challenge and engaging lectures.

232. The lectures were good and readings assigned/EOC problems were mostly relevant and helpful.

233. ALEKS, the textbooks, and the worksheets really helped with learning.

234. I really enjoyed the way the professor talked about the subject. She really was able to show her love of the subject and connect to the students while still staying on track and explaining the subject at hand.

235. aleks, and the professors lectures

236. ALEKS helped a lot

237. As much as I didn't like ALEKs, it help me in this class and the quiz sections also helped me.

238. Lecture concepts, a solid examples of types of chemistry questions.

239. The lectures and quiz section worksheets

240. Lectures, especially explanation of why things were. Examples done in class were also relevant to work.

241. Explanations and practice problems.

242. The heavy emphasis on exams contributed most to my learning.

243. ALEKS

244. Her enthusiasm to teach, especially considering that it was in the morning.

245. Discussion, ALEKS

246. The lectures and labs.

247. ALEKS homework online

248. I learned most of the content through lecture and used the book readings at times to clarify or fill in gaps. I enjoyed the labs a lot.

249. aleks and lectures, Labs

250. Aleks.

252. This class' online ALEKS program, and attending the lectures themselves did the most to contribute to my learning.

253. Lectures

254. Lectures and Aleks.

255. Lecture

256. The professor was excellent in providing detailed and effective explanations.

257. I really liked how she was consistent with her tests. She was always explicit what was expected to succeed and allowed me to rise to her expectations for the class.

258. All of the examples during the lectures.

259. Lecture sessions and ALEKS probably constituted most of my ultimate learning.

260. Lectures and quiz sections.

**What aspects of this class detracted from your learning?**

1. ALEKS tends to be extremely repetitive and doesn't really provide much actual learning.

2. The time restraints for testing and also the pacing of the class.

3. The class size

5. Having a very huge lecture with a ton of other students.

6. Nothing.

7. Sometimes there were so many ALEKS objectives that I was more focused on finishing them that learning how to do them right. This was less beneficial to my learning.

8. The size of the class.

9. ALEKS took way too much time. Often didn't correlate with lecture material. Too much time and effort towards it when the time could've been spent towards reviewing the actual material from class.

10. None

12. The class size but it didn't affect me that much.

13. The homework topics presented on Aleks were given about a week prior to the topics being covered in lecture. If we had had lectures on the topics first, it would have significantly reduced the amount of time spent doing homework.

15. None

16. When we went over basic stuff for too long, things that I think the majority of the class already understood

17. Labs

18. Some of the lab sessions -- the one about stoichiometry with ferroin -- were useless and did not aid in my learning.

19. It was challenging

20. The lectures i guess.

21. Nothing.

22. when we don't finish the whole lecture in class.

24. Disturbance from friends.

25. Discussion section because we weren't very well guided through the worksheets and some of lecture because people would ask questions that waisted time and we'd fall behind.

26. none

27. Nothing from this class detracted from my learning.

28. nothing

29. ALEKS

30. All the aspects of this class helped with my learning.

31. The labs were so stressful I rarely learned from them.

32. None.

33. I did not like the grading of labs, I felt like how they were graded did not represent if you understood the concepts. Lab reports should have clearer instructions as I often missed points just because I was not aware of how it should be formatted or answered.

34. People talking during lecture.

35. The lack of crucial information on the details (I had to figure out myself on the internet)

36. The number of practice problems felt a little overwhelming to complete within a certain deadline.

37. Labs

38. The lectures were not worth going to, especially for how early it was, when they were posted online with the lecture notes.

39. The size of the class and testing environment

40. Lectures - not interactive enough

42. The amount of stress it gave me, it was more than what I can handle. Also, having lab reports due right after class. Stress, time, and pace plays a large role. And I'm a person who likes to know what I'm doing without getting rushed. Isn't lab suppose to demonstrate what we learnt in class, not over pace our self? So, I never really got to enjoy my lab experience.

43. I don't learn well from lectures. I understood better by the examples we did in class.

44. Too many Aleks topics per week, and the midterms being so close to each other, really long discussion pages but not getting the answers to the discussion papers till a week after.

45. Early lecture time :(

46. None.

47. ALEKS. ALEKS is the online homework website used in this course. It is a very time consuming (5-10 hours per week) program. Often times the topics it presented had very little to do with the lectures, if at all.

48. There were some technical difficulties during lecture that detracted from the class's learning as a whole. I do not blame Professor Craig for this.

49. The speed and pace at which the class functions. It was easy to get behind although it seemed I was always studying or devoting time to chem.

50. how unprepared i felt for the first midterm

51. Aleks along with discussion sessions at times

52. The wasted class time used to learn the online coursework felt very unnecessary

53. I did not like the labs. I don't think they taught me the material or helped me to understand it. For the most part, I felt like they were a waste of my time.

54. There were a few downsides to ALEKS in that due to the way it works, you cannot progress unless you complete a certain number of questions correct consecutively. This for me distracted my learning in that I became more focused on answering the question right rather than understanding the concept. It also became quite time consuming whenever a simple calculation error resulted in repetition of the topics.

55. The labs

56. The initial large ALEKS workload

58. Some of the lectures contain too much content that can not be covered in one hour.

59. Occasional seemingly unnecessary ALEKS topics

60. Lecture because sometimes it could be hard to understand topics because we go over them so quickly.

61. At times I found out difficult to keep up with the ALEKS work and it didn't always match up with the lecture material.

62. N/A

63. The repetitiveness of ALEKS.

64. The number of ALEKS problems assigned each week

65. I don't have any that I can think of.

66. None.

67. Large lecture learning, ALEKS, long lessons on computer

68. The fact that the quiz section put me in groups (I work better individually).

69. No aspects of this class detracted from my learning.

70. Sometimes i felt as though i didn't learn anything and then I'm really lost for a while.

72. Nothing.

73. For me, the high stress of testing detracted from my learning. I did very poorly on the midterms despite the feeling that I knew the concepts relatively well.

75. Too early in the morning

76. The sequence in which the course material was handled.

77. The large lecture class can cause one to feel disconnected from the instructor, but relying on the formation of study groups does much to overcome it

79. None.

80. ALEKS homework was a detractor.

81. I thought the the amount of questions on the test was a little much. I had to worry more about the time then the actual questions. I'd like to say I knew the material very well but even then, I was not able to comfortable do the amount of questions she provided the 50 minutes.

82. ALEKS distracted from me from focusing on the course content when it wasn't directly related to what we were learning and it took much time to complete.

83. N/a

84. Neighbors talking loudly

85. While Aleks was helpful the amount of problems made it more of a rush than a learning tool.

86. The pace.

87. I can't say that any did.

88. Morning time-slot, discomfort with test format (many multiple choice with little time, as opposed to few, difficult free response), lack of clarity between ALEKS, book, and lecture with regards to relevance toward tested content. ALEKS repetition often frustrating rather than stimulating, as opposed to WebAssign, which encourages careful examination of a single problem laid out in a less scattered, stressful format.

89. How the study guide is nothing like the exam.

90. N/A

91. ALEKs probably was the most detracting.

92. Nothing.

93. A lot of times the questions asked in lecture by students seemed to me like easy questions that could have easily been looked up on their own. These kind of questions slowed down the class with little worth to the majority of people in the class.

94. I think there may have been too many ALEKS and there could have been more variety on what to work on.

95. Alek's took way too much time, discussion section often confused me more than it helped

96. quiz sections

97. Aleks it felt tedious and I didn't feel like I learned anything I just went through the motions

98. Busy work of ALEKS sometimes.

99. Aleks stress

100. 8:30 am starting time.

101. The micro-managing style of the class. I am working full time and the Friday deadlines for assignments and mandatory section attendance was not helpful for me and was very difficult to navigate with my other responsibilities. I understand trying to teach college freshmen to have good study skills but you can't control them. They're in college now. Its there responsibility to figure out how to get by in class and gearing course structure towards them specifically is very ostracizing to people with different family/job responsibilities that also want to take the class but don't have the flexibility of full-time students.

102. ALEKS at some points

103. It's moving really fast but that's college.

104. I understand labs are important, but I never felt like the lab portion improved my understanding and it stressed me out, even though it's only a small percentage of my grade.

106. Some of the readings seemed irrelevant.

107. In lab reports detracted from my learning. Instead of being able to take the time to actually understand concepts, I was forced to rush through in-lab reports, and often panic and just write the first thing I thought was right.

108. Just the amount of Aleks homework and the time it took me to complete it took time away from me to study for exams.

109. trying to learn the course material (sometimes incorrectly) before the lecture

110. Learning about topics i already knew really well because during these discussions my mind would wander and think about other things.

111. nope

112. nothing

113. It feels as though everyone wants you to fail.

114. The lab work didn't correlate exactly with what we needed to know for class.

115. Not sure.

116. I detracted myself from learning. Nothing in the class did, it was just me.

117. Nothing really, the first lab was too intense.

119. I think that the only thing that is hard is that it is such a big lecture so sometimes I have to save questions for my TA.

120. Early morning lectures

121. Nothing detracted my learning in this class.

123. Nothing really detracted from my learning.

124. aleks

125. big lecture hall, early lecture

126. the lecture material was too easy so i was not captivated

127. Nothing

128. the TA

129. Labs

130. The size of the class and how fast it went/how much information was crammed into the short time period.

131. Labs, most were entirely disconnected from what we were learning in lecture, but for the two that were related to the subjects we were exploring in lecture, they were done after we had already moved on in lecture, so they did not enhance our understanding.

132. When too many questions were asked during lecture, we seemed to get a little bit behind on lecture notes. A few questions will help the entire class understand the concepts, but not too many. Additional questions can always be asked during office hours.

133. The shorter class times did not allow me to think about the concepts for a long enough time for it to settle in my brain.

134. the early hour of lecture

135. Eventhough ALEKS is helpful but it's very time-consuming.

136. The interest level during lectures

137. Too early in the morning, lectures were moving to slow to retain my interest, at least at first I felt we were behind where we should have been in the material.' The fact that the lectures were recorded were very helpful. Thank you.

138. Unrelated conceptual classes in class, waste of class time

139. Time of the day

140. Nothing.

141. 8:30am lectures! I know that's not anything you as the instructor can change, but it's something I don't think I can manage for myself.

142. Nothing that I can think of

143. discussion section with my TA was not prime

144. The dense lectures.

145. The labs detracted from my learning because they were just stressful, so I didn't learn much from them.

147. I hardly ever read the book, and it wasn't required that I did.

148. The lectures felt kind of slow compared to other classes. This class is definitely geared toward new college students.

149. ... Nothing?

150. ALEKS didn't always align with what was being taught.

151. Lab reports, not the actual lab themselves

152. Once you miss a lecture, it is really hard to catch up if you are not motivated

153. ALEKS

154. Nothing

156. The labs were unnecessarily stressful in terms of what is required in the notebook and points are unfairly deducted. Also, lab report instructions aren't clear enough sometimes.

157. Nothing

158. Nothing.

159. Going into questions about things that will not be covered in this course.

160. Some of the video examples included in the lecture was not particularly helpful.

161. The lectures could over the material more effectively

162. The labs some were just not important.

163. confusion

164. The size of the lecture class (625 students) distracted me from focusing on the professor.

165. I feel that labs do not help your understanding of in class topics. They take up a lot of time and aren't work a huge majority of your grade considering how much time goes into them. Also, I feel that too much time is spent on the history of chemistry and background information when it is not needed for what you will be tested on.

166. None

167. The style of lecturing due to the class being so large wasn't very easy for me to keep up in note taking or asking questions right away when I didn't understand something.

168. None

169. The exams killed me--even though I knew the content.

170. None of the aspects detracted me from my learning.

171. N/A

172. None

173. Bad TA

174. The excessive amount of topics of ALEKS and the grading and point system of the midterms and final were a little unfair in my opinion.

175. Having to much other semi irrelevant work taking away from learning the material

176. ALEKS was very time consuming and not always relevant to tests, etc. I felt I could have studied more often and effectively without it.

177. It was well structured

178. At the moment I can't think of any.

179. ALEKS

180. People asking questions that weren't relevant.

181. I didn't really like the way ALEKS operated because it eventually became something to get done with rather than something to learn off of

182. Not too much detracted from it.

183. lecture

184. clue sessions

185. Nothing

186. None.

187. Can't think of any

188. Labs- I have gotten more confused about the topics after labs than before ALEKS - Lots of work, not too much relevancy in learning how to do the problems because the style questions are asked in are very different. Also, I wasted a majority of my time in chem doing ALEKS because of the way it was set up and had little to no time to read or do EOC problems. Additionally, ALEKS topics usually were scheduled a week too soon, so you would have to spend time teaching yourself it and a week later be "taught" it in lecture.

189. None

190. none

191. ALEKS.

192. I transferred into this class after the quarter had begun, leading to me missing some big parts of quantum mechanics and having to play catch up.

193. Nothing really.

194. ALEKS.

195. I found that some of the discussion sections were not as useful as they could have been.

197. No aspects of the class detracted from my learning in this class.

198. N/A

199. None I can recall at the moment.

202. early morning lectures

203. While I understand the need for lab sessions (it's important for people to learn different procedures in a lab setting and to see actual, real world examples of the problems they do for class), I usually found that the work-to-learning ratio for the labs was a little bit lopsided. Obviously, I already understood the principles at work, otherwise I wouldn't be able to do the lab, so spending 3 hours in lab and more outside working on the lab report seemed a little unnecessary. But I do understand why we do it.

204. ALEKS was not entirely relevant to the course material, nor did it help prepare me for the exams. More practice problems similar to material that would be on the exams would've been more effective.

205. People talking constantly during lecture.

206. The reading might've confused me more.

207. Quiz section

208. The online homework was repetitive at times.

209. The lectures put me to sleep from time to time.

210. The early morning lectures.

211. The EOC suggested problems detracted from my learning.

212. The repercussions of getting a bad grade

213. ALEKS was very confusing to me and it didn't always follow what we did.

214. The amount of questions she took during the class period.

215. N/A

216. My peers in class discussions and lectures detracted from my learning as the majority did not know what to do or were unsure of the concepts when I faced similar obstacles in the course.

217. Some of the concepts taught in class were taught differently on ALEKS. The difference between the two detracted from my learning as it was easy to confuse both methods.

218. None

219. None.

220. There wasn't anything that detracted from my learning in this course.

222. Early class times

224. The fact that there was not much opportunity in class to participate made some lectures seem to drone on.

225. None

226. The lectures

227. Lectures, they don't work for me

228. The amount of people.

230. Sometimes the lectures were really slow and did not relate to what was happening either in our lab or what we were learning in ALEKS which made doing both rather difficult.

231. Nothing

232. Fast paced lecture

233. The size of the class and the frequent technical difficulties distracted from my learning.

235. none

236. Sometime the 8:30 class section was hard to focus in

237. I didn't like how with ALEKs even if you made a silly mistake it would make me repeat that objective which was frustrating.

238. ALEKS, it made me really get fussed in trying to finish this up rather than making more efforts towards doing my own personal studying by working on practice problems in the textbook.

239. Having so many Aleks to do, they were helpful, but sometimes felt like too much, and distracted me from studying how I wanted to study

240. Some of time spent answering questions (while interesting, set us behind)

241. None.

243. discussion sessions were really quiet and i didnt feel comfortable enough to get help

244. It is too early, so very tired when I attend class.

245. To much homework

247. ~

248. Aleks was a waste of time, if I'm honest. The material covered in Aleks was rarely relevant to the labs and exams. I spent hours doing Aleks every week, and still haven't completed enough of the pie to receive a good grade because those portions simply haven't been assigned. Now I have to decide if it's worth going back and spending hours grinding away to learn objectives that I know won't be on the exam for a grade, or if I should just take the hit and study material that might have a chance of being on the exam based on past objectives. Aleks was a horrible use of my time, as 90% of the objectives were never relevant when it came to exams or labs. Considering how much time goes into Aleks each week, I would expect it to be a little more helpful.

249. nothing

250. Nothing.

251. There was too much ALEKS. The explanations on ALEKS are good, but the amount of work assigned is ridiculous.

252. Sometimes being confused about the chemical theory used in our labs would confuse some of my understandings of chemistry. Other than this, there have not been many detractions from my learning.

253. Labs were time consuming and did not seem to be directly helpful for exams

254. None.

255. Nothing

256. Nothing, other than my horrible lab partner.

257. When too many students asked inane questions which made us behind in lecture.

258. Nothing.

259. Chemistry Lecture sessions gave out a number of practice handouts, but they never made practice mandatory and I was never made aware of a source of answers which would ensure I was actually able to do the problems.

260. Nothing.

**What suggestions do you have for improving the class?**

2. Better pacing if class and have better practice material for exams.

3. Smaller classes (although I know it's unlikely).

5. Lower the amount of questions per exams. 2 and a half minutes per question for 20 questions is mentally exhausting and very pressure intensive if you do not 100% understand the materials and equations. 15 question seems more reasonable or add the 5 mins at the begging of the class towards the exam instead of explaining the rules.

7. I think the class structure is effective if students are willing to put the work in.

9. Make ALEKS an optional assignment. Change the exam format to include partial credit.

10. More in class demonstrations

12. No major changes.

13. Fix the scheduling of the homework topics.

14. Do not make the tests multiple choice. You can't get partial credit for what you have right and it is unfair.

15. Less aleks topic due in the first objective. It was very overwhelming to learn the system and have that much hw due.

16. Spend more time on practice problems in class, seeing actual examples of what we are learning is helpful

17. I'm not really sure if the discussion sections where we do worksheets should be required in the sense that we are graded on them based on participation. I've only found one to be useful and that was because the T.A. went over a topic that was not covered in class.

18. self-love

19. It waa challenging

20. Make the prelabs due monday night instead of monday afternoon.

21. I don't have any suggestions because I enjoyed the class.

22. Pace the lectures better so that we are able to finish them in one class period and not get behind in lectures.

24. Nothing.

25. More example problems gone through with a professor or TA

26. Doing more examples as a class and explaining your thinking as your doing the problem(not having the problem pre-typed).

27. I know that the professor has videos of lectures from previous years. I enjoy watching them faster at home to review (I have only missed one lecture this quarter, so I would still go to lecture). Especially when doing Aleks, would it be possible to post the next lecture before we go to class so that we can watch the lecture to do Aleks and be ready with a little background knowledge before lecture? Thanks!

29. More in-class demonstrations perhaps?

30. There is to much jumping around instead of having it in a understandable order.

31. Find a way to make the labs less stressful by making them easier to complete and get a good grade on them. Then, put more emphasis on understanding what we are doing in the lab and why.

32. Moving the ALEKS due date back to Sunday evening, that way it is easier to work on ALEKS as students learn it throughout the week as oppose to rushing through it and not gaining a full understanding.

33. Lab reports should have clearer instructions and examples.

34. I would have loved for the Aleks deadline to be at 12 instead of 9.

35. Not much. It is not perfect but it cannot get any better. Simply, the size of the class is too big.

36. Try to give some time to work on the suggested questions that are located in the textbook.

37. Have more worksheets available

38. Maybe more previous exams to review since the curriculum wouldn't be too different and its just more help.

40. Make lectures interactive and more stimulating.

42. Even though this class is meant to be a weed out class, it is tougher than it should be. Our overall grade for this class is 70% exams, with little wiggle room. I love Chemistry and came to the UW wanting to major in Chemistry, but I suffer from test anxiety. Having exams worth less would be great, so students like me won't get discouraged. Switching to Canvas for grading would be helpful also. Canvas gives you your current grade, and can give you "what-if" scores which is very helpful and it can give students a better idea on their grades.

43. None

44. Less objectives per week, get the discussion worksheets key back to us earlier and posting more videos from previous lectures that are extra help or examples.

45. Spend less time on simulations... 25 minutes was spent on 12/2 on the gas simulation and we glossed over the other topics that we could have easily covered.

46. None.

47. Remove ALEKS, or fix it. And make the requirements for getting into the class harder on the placement test. I got into the class purely because of my math skills, I believe. Not really any chemistry.

48. I do not have any suggestions for improving the class.

49. Offer more practice outside of practice and textbook, maybe problems that professor creates herself, so that way students have a better sense of the types of questions that will be asked on exams, and what style they'll be in. And offering more supplemental videos would be really helpful as well.

50. weekly quizzes just to get use to what the midterms might look like.

51. Make pre-labs due the day of or day before a students laboratory, but open to complete them on Monday. Also shorten the amount of total topics in aleks.

52. Try to spend less if not no time on teaching the online coursework during lecture. There are plenty of resources to aid students who need help in this area of the course and they should be able to find those resources easily.

53. Make every other Chem class function like Dr. Craig's class. She listens to our feedback and makes changes to the course, like when we asked her to put out review material earlier for the second midterm than she did for the first one. Her main goal as a professor is for all of her students to succeed. She is incredibly fair. Her teaching style is engaging and she knows the material and all of out questions very well, even if the questions aren't related to what she is currently lecturing about.

54. It would be helpful to provide more worked examples or to work more examples either during the lecture or provided in the lecture notes so a larger variety of problems can be seen rather than a single example.

55. more help on aleks,

57. Maintaining the effective teaching methods like step-by-step instructions, panopto recordings,

58. Weigh homework and Labs more on calculating GPA

59. Deletion of unnecessary ALEKS topics.

60. I don't know

61. I think it might be best to have half of each midterm be in class and the other half be take home. That way we would be able to be tested on more concepts instead of having a lot of weight on just 20 questions.

62. N/A

63. Don't know of any methods to improve the class or the way homework is handled.

64. Maximum of 15 ALEKS topics per week

65. I don't have any.

66. More review and practice problems for exams.

68. More clarification on what we need to know vs. what we don't need to know.

69. Go over topics for Aleks a few days earlier than it is due.

70. Put a work key up for the practice exams. I was able to get the answer correct on the practice exam but when i use that same technique on the exams i can't get the answer. An explanation on the key to those practice exams would be greatly appreciated.

72. None.

73. None.

74. Something that I wish Dr. Craig could do more is more demonstration because I'm more of a visual learner so seeing it would help me understand it better.

75. The first lab should not be as difficult to complete since it is the first lab ever for most freshman. It would be much better to start with a less demanding lab so that the transition to more demanding laboratory work is a bit easier.

76. The very first part of this course maybe should be taught later, for it was much harder to understand than that of the others.

77. I would say smaller class sizes, but I realize that as this course is a requirement for so many disciplines, it simply would not be feasible to reduce class sizes.

79. Rate laws should be explained with slightly more integral calculus, as the crucial step of integration going from differential rate law to integrated rate law was omitted

80. Don't use ALEKS. Instead, provide more worksheets like those provided in quiz section.

81. Two less problems on the test or start the test as soon as we get there, not 5-10 minutes into the class period.

83. I found the plethora of examples during lecture to be superfluous, especially given the presence of aleks.

84. Maybe have a template of extra textbook questions on canvas. It's hard to find them in the textbook and that makes us not want to go through the effort of finding themand then we end up skipping them.

85. More available worksheets and study guides.

86. Longer discussion session if possible. Or better use of the time we have in it.

87. I have none.

88. I would prefer a move away from ALEKS to a system such as WebAssign. ALEKS's "fancy" features result in more of an annoyance than a benefit. It feels disconnected from the book and the course.

89. Make better study guides.

90. N/A

91. The only think I can think of that really kinda frustrated me was the ALEKs work.

92. Can ALEKS be covered??? Like really.... I'm paying tuition on top of my all my books and cost of living....

93. Allow fewer questions in class, or be selective with answering questions.

94. More practice tests. Perhaps more use from the textbook because I did not do too much with it throughout the course.

95. Better TAs

96. more office hours

97. Use a different way to assign hw one that doesn't go by an objective but a mix of all the types of questions you will get that way ur not just going through the motions

98. Having more practice examples and a full practice exam with the correct amount of questions.

99. Change Aleks deadline to weekend deadline please

100. Longer time for midterms.

101. Make attendance optional for section. Let students have the opportunity to use weekends to complete assignments.

102. It was really good! A more helpful curve would be really nice

103. N/A

104. I really wish the ALEKS deadlines were on Saturday evening rather than Friday, because I can never find enough time during the week to finish ALEKS assignments, so I have to cram on Friday afternoon/evening which isn't very effective. I would prefer to use the entire Saturday to go through all the topics to make sure I really understand them.

106. Better explanation of lab- maybe in the quiz section. More clarity on what is needed in the lab report. More lenient grading on the lab reports because sometimes it can be challenging to make sure all required information is on the lab notebook AND the lad report worksheet AND do the experiment at the same time.

107. Keep an archive of past exams. That way, at any point in the course one may begin practice for an exam. They do this in Math 125 and it is perfect.

108. A little less Aleks homework and make the grading scale a little more attainable.

109. Less ALEKs

110. Do not take a class that is similar in the topics covered because it can make relearning them tedious.

111. nope

112. nope

113. None currently that I can think of.

114. Make sure students know how important Alek is to learning and practicing the problems!!!

115. I'd say the lectures could be more interesting by adding more demos, otherwise it's a pretty good class.

116. Nothing really to improve on. Continue to be in it for the student and doing everything for that student to succeed.

117. Push the first lab to a later time so students have a chance to understand how to prepare for lab and succeed under time pressure.

119. It is difficult when ALEKS is ahead of the class and I have to teach myself the ALEKS in order to do it on time.

120. Less ALEKS workload

121. Although her lectures are very meaningful and interesting, it would also be nice to incorporate other forms of learning such as video or more experiments done in class to help provide students with more context and content examples.

123. I think it would be helpful to give out more practice exams for midterms and finals.

126. lecture about more complicated parts and emphasize the theory

127. None

129. Make the in lab reports due extended a day

131. The lectures are great, and the amount of work is reasonable, but I'd suggest making the lectures relevant to what we're actually expected to know for exams, because they felt like a bit of a waste of about 3 hours per week.

132. Quiz section seems to pass by so fast. It can be difficult to practice the problems and ask questions in such a short amount of time. An hour and thirty minutes seems to be a happy medium. Or possibly a suggestion to which problems may be a bit more challenging? So we can struggle together, and then ask our TA for help.

133. Having a review session for the exams that is specific for the instructor and with topics that are chosen by the instructor.

134. very short post-lecture quizzes to make sure we understand the content

135. less ALEKS, more practice problems

136. ALEKS help

137. Have ALEKS due later (Either Saturday or later in the day on Friday)

138. Have Andrew Wildman be the TA for everyone. Maybe review labs a bit in class? if we are ahead in lectures

139. Later in the day

140. Nothing, Proffessor Craig does an excellent job.

141. Make the lectures more mandatory to go to, otherwise I find it far too easy to skip them (as much as I don't like to admit it).

142. More lecture time

143. in my opinion, it would be hard to improve lecture section, I think it was really good

144. Allow more time for questions, they would all get snubbed after 3-4 questions were asked

145. To improve the class you could make it less militarized, especially the labs and lab policies.

146. The initial ALEKS objective due the first week seemed excessive, especially relative to later objectives

147. None.

149. Furtada

150. Create a clearer connection between ALEKS and the material taught in lecture.

151. nothing

152. Keep watching the lectures and always do aleks.

153. Aleks should not be used as much as it is

154. The videoes were entertaining. There wasn't much reason to show up to class. Also, Craig talks sooooo slow.

155. Have a little more time for exams, we receive the exams when the class starts and then we run out of time 5 minutes before class end so instead of 50 minutes for the test, we get around 42 ish.

156. Revise lab report instructions, make all lab reports post-lab and don't require notebook pages to be turned in.

157. Nothing

158. more practice problems.

159. Make the syllabus and expectations and lab manual less wordy.

160. I think that posting the video examples of the concepts on the class website for students to watch after lecture would be more useful so that as much information and questions can be cover in the already short lecture time.

161. study guides perhaps

162. More packets with examples. Less time on visuals and more on problem solving.

163. make sure aleks follows the lectures

164. Lower the class size

165. Less stress on labs, more time with TA's to ask questions about material, and more in class practice problems that actually correlate to what you learn through ALEKS. Make sure that the way ALEKS explains topics matches what you are presenting in class because there were a lot of times someone would ask about ALEKS and the professor didn't have an answer when I feel that obviously she should when she is the one assigning us to these problems.

166. None

167. Making the deadlines for ALEKS objectives at midnight.

168. The class was very useful and structured. No improvement needed

169. Nothing- I think Colleen knows what she is doing!

170. To improve the class, I suggest reviewing more at the beginning of lectures and discussions.

171. Making practice exams be more like what will be on the actual exam.

172. None

173. none

174. Have a little less amount of ALEKS topics to do each week and reduce the points per question on the midterms and final.

175. Less fast paced

176. lessen the amount of ALEKS topics each week, add another midterm and provide worked out solutions to practice tests

178. Again, I am quite content with this course and I can't really think of ways to improve upon it.

179. Remove ALEKS completely

180. The packets in quiz section we should actually spend time explaining and going over. Felt like they were just handed to us.

181. have more test related practice be possibly available

182. I only recall receiving updates by email for the final three surveys, and I would have liked to receive notifications regarding the first two.

183. maybe try to connect the concepts more to their mathematical equations rather than just base it off of the step by step process, that's good for explaining the mathematical equation but not giving a final simple equation makes things harder

184. none

185. more homework

186. Better explanations of lab report questions.

187. None

188. Match up ALEKS topics to lecture topics so we don't have to teach ourselves. I wasted so much time this quarter doing this.

189. Relate lecture topics to labs we are doing when possible.

190. none

191. Improve ALEKS.

192. Perhaps a better explanation of redox reactions.

193. More practice exams before midterms

194. Less ALEKS would be beneficial because it took up a lot of time when I could have been focusing more on learning the content.

196. It would be additionally helpful for Dr. Craig to somehow connect the examples in class with specific ALEKS topics. That way, students can better apply the topics practiced in ALEKS to the course as a whole, and get verbal instruction for difficult homework topics.

197. One suggestion I would have for improving the course would be to provide more review materials for the exams.

198. The Aleks homework system could be improved. Currently the 10 objectives does not include 25-30 topics which are just left off which we have to finish at the end of the quarter while trying to study for finals. All topics covered in Aleks should be included in the 10 objectives.

199. I would suggest answering less questions in class so that the entire lecture can be covered within the class period.

201. Her explanation was great, it was her exams. At the beginning of the quarter she kept saying "Light behave in a 'particle-wave' duality" and she repeatedly said this for the entire week that we were learning about light particles. But then on the first exam, a question came up and read somewhere between the lines of "How does light behave?" And the answer was not "Light behave in a 'particle-wave' duality" but it was "hv" My suggestion is in the future if you ever told your students some pivotal facts/information, please make the question to have that answer, and not the explanation from the textbook.

203. None!

204. Less ALEKS. It was time consuming and not entirely useful.

205. More review material for exams.

206. Having an extra quiz section would really help.

208. More interactive classes with polling would be helpful.

209. I have no suggestions.

210. Keep it up!

211. More practice problems that are not nearly as hard as the EOC problems but more like the Discussion Section worksheet problems.

212. Encourage less memorization when it comes to studying for the test and include more applications of concepts so students understand why we're learning what we are.

213. Maybe have less discussion time in class to insure that the class finishes the lecture.

214. Don't take as many questions so she'll have time to finish the lecture before class ends.

215. N/A

216. One suggestion I have for this class is to do more class activities as the majority of the lecture was sitting in place for the entirety of the lecture. Otherwise, lectures were enjoyable and educational.

218. None

219. None.

220. I don't have any suggestions, it was a well run course.

221. Make lists of step by step instructions to solve problems especially with formulas

222. More relevant review sessions

224. Some way of getting the classroom more engaged.

225. A later class time

226. Have more study guides/ review material

227. it's good as is

228. The only suggestion I have would be more example problems like the ones that will be on the test.

229. Doing practice problem during lecture would help.

230. I think my biggest difficulty in the class was lining up what we were learning in lecture with what was happening in ALEKS. It would have been really helpful to assign ALEKS on topics that we would finish learning about maybe the Wednesday before ALEKS was due versus learning some of the ALEKS topics in class the day ALEKS is due.

231. Nothing

233. I think more visual examples such as the precipitation reaction demo and the VSPER balloons will help a lot for future students.

235. none

236. Less ALEKS problems would be beneficial because it would give us more time to study other concepts in different formats.

237. I personally think making the tests mc and a few free response questions might be good because I don't think MC is a good assessment of my understanding. Sometimes I will make a small mistake but will loose 5 points and I don't think thats a good assessment of my understanding in this class.

238. Either get rid of ALEKS or minimize the number of questions (3 questions per topic), if you do get rid of ALEKS, make physical homework for Discussion sections a weekly thing where you need to hand in a packet (that lets you practice lecture material) with questions that are particularly similar to the ones we'd see on exams.

239. cutting back Aleks a little bit, and offering more opportunities for varied learning techniques

241. None.

242. A suggestion that I have would be for more implementation of review sheets as they were helpful with my learning.

243. nothing

244. Some way to refresh our memories from previous topics as we move on through the quarter.

245. Go slower

247. ~

248. Scrap Aleks and implement a new homework system that will cover relevant course content much better. For example, my homework for math is a problem set that the professor selected based on what he lectured on and what will be useful on the exam - Aleks is just a generic list of topics that are "relevant" to Chem 142, but it often left gaps in crucial areas and over-focused on areas that were not useful when it came to exams. Most lecture fell short on time and left just enough material left over that a video would have to be watched outside of class to makeup for it - I don't always have time to do this, and I shouldn't have to do it nearly every week.

249. nope

250. Nothing.

251. LESS ALEKS

252. To improve the class, I suggest providing both multiple choice and free response problems for the section worksheets. A mix of both will help us understand how to tackle many different types of chemistry problems.

253. The margin for error on midterms was very small. I would improve this for a better understanding of how well a student understands the material

254. None.

255. Class was great

256. None, overall I felt it was structured well overall. However, I would say uploading the exam scores prior to receiving them would be very good.

257. To stay more on task with the lectures

258. None.

259. Give students answers to the chemistry discussion section problems and clarify concepts.

260. Nothing.

*IASystem* Course Summary Reports summarize student ratings of a particular course or combination of courses. They provide a rich perspective on student views by reporting responses in three ways: as frequency distributions, average ratings, and either comparative or adjusted ratings. Remember in interpreting results that it is important to keep in mind the number of students who evaluated the course relative to the total course enrollment as shown on the upper right-hand corner of the report.

**Frequency distributions.** The percentage of students who selected each response choice is displayed for each item. Percentages are based on the number of students who answered the respective item rather than the number of students who evaluated the course because individual item response is optional.

**Median ratings.** *IASystem* reports average ratings in the form of item medians. Although means are a more familiar type of average than medians, they are less accurate in summarizing student ratings. This is because ratings distributions tend to be strongly skewed. That is, most of the ratings are at the high end of the scale and trail off to the low end.

The median indicates the point on the rating scale at which half of the students selected higher ratings, and half selected lower. Medians are computed to one decimal place by interpolation.[1] In general, higher medians reflect more favorable ratings. To interpret median ratings, compare the value of each median to the respective response scale: *Very Poor, Poor, Fair, Good, Very Good, Excellent (0-5); Never/None/Much Lower, About Half/Average, Always/Great/Much Higher (1-7); Slight, Moderate, Considerable, Extensive (1-4).*

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Decile ranks range from 0 (lowest) to 9 (highest). For all items, higher medians yield higher decile ranks. The 0 decile rank indicates an item median in the lowest 10% of all scores. A decile rank of 1 indicates a median above the bottom 10% and below the top 80%. A decile rank of 9 indicates a median in the top 10% of all scores. Because average ratings tend to be high, a rating of "good" or "average" may have a low decile rank.

**Adjusted ratings.** Research has shown that student ratings may be somewhat influenced by factors such as class size, expected grade, and reason for enrollment. To correct for this, *IASystem* reports **adjusted medians** for summative items (items #1-4 and their combined global rating) based on regression analyses of ratings over the previous two academic years in all classes at the respective institution. If large classes at the institution tend to be rated lower than small classes, for example, the adjusted medians for large classes will be slightly higher than their unadjusted medians.

When adjusted ratings are displayed for summative items, **relative rank** is displayed for the more specific (formative) items. Rankings serve as a guide in directing instructional improvement efforts. The top ranked items (1, 2, 3, etc.) represent areas that are going well from a student perspective; whereas the bottom ranked items (18, 17, 16, etc.) represent areas in which the instructor may want to make changes. Relative ranks are computed by first standardizing each item (subtracting the overall institutional average from the item rating for the particular course, then dividing by the standard deviation of the ratings across all courses) and then ranking those standardized scores.

**Challenge and Engagement Index (CEI).** Several *IASystem* items ask students how academically challenging they found the course to be. *IASystem* calculates the average of these items and reports them as a single index. *The Challenge and Engagement Index (CEI)* correlates only modestly with the global rating (median of items 1-4).

**Optional Items.** Student responses to instructor-supplied items are summarized at the end of the evaluation report. Median responses should be interpreted in light of the specific item text and response scale used (response values 1-6 on paper evaluation forms).

[1] For the specific method, see, for example, Guilford, J.P. (1965). Fundamental statistics in psychology and education. New York: McGraw-Hill Book Company, pp. 49-53.