



## HOW TO PREPARE FOR EXAMS?

You have worked hard studying organic chemistry. Are you ready to take the exam? How can you prepare for that ultimate test? The number of hours you spent studying does not really measure your preparation. You have to find out what you know, and especially what you do not know before taking the exam. And, of course, you must fix the deficiencies that you discover in the process. Such honest self-evaluation is a very important, but often neglected, component of a strategy to earn highest exam grade possible. Here are your 10 steps to organic-chemistry heaven:

### **Foundation building** (everyday)

1. Start early and give your-self plenty of time to prepare for each exam. Organic chemistry is a difficult course that will challenge you. Develop good study habits!
2. Check if you have your notes in order (recopying often helps), prepare summaries from your readings, and make note cards (flash cards). Use any method that helps you build a framework of logical connections between various concepts of organic chemistry. Remember, each new subject builds on previous material (concepts).
3. Make sure that you are comfortable with basic skills (such as drawing structures, building models, and visualizing 3-dimensional shapes), and that you have mastered the appropriate vocabulary (definition of new chemical terms and nomenclature).
4. Do all of the assigned problems. Try to solve them without looking back into your book or notes. Consult your book or notes only if you do not know how to start. Only as the last resort find the solution in the answer book. And even then, in addition to finding the answer, you should try to discover why you were not able to solve it without the book. Test your understanding with lecture quizzes (ANGEL). You must find and fix the gaps in your knowledge. For help, use our web discussion forum, visit TA's or use the Resource Center.

There is no way to pass this course if you have not done at least this much (doing really well will require much more).

### **First round of self-evaluations** (start at least two weeks before the exam)

5. Do other problems in the book concentrating on the subject that gives you the most trouble. Do not look at the answer until you have seriously tried the problem. If you need help from the answer book, you must discover why you could not do it without the book. The early questions in each chapter and the on-line problems are usually easier (more routine) and can be used in the foundation building (see above). The last few problems are more difficult and are more appropriate for self-testing. The training sets (available on the web) are provided to help you to move beyond the book, and to get adjusted to the multiple choice format. Get help if necessary.
6. Get study mates. Ask your study mates the most difficult questions you can think of. Ask them to do the same in return. Explain the answers. If they understand you, it usually means that you know what you are talking about. Studying with somebody also helps you with more precise understanding of the new chemical terms and concepts, since you must verbalize your thoughts in the process.

7. Work with a training set and a practice exam (save the most recent exam for last!). DO NOT use the answer key, your book or notes. Use your model kit as needed. Solve exam questions as individual problems. Do not worry about keeping time. Make sure that you understand the question (terms and vocabulary), make sure that you know what material they refer to. When appropriate, try to solve the questions without looking at choices provided, and then match your answer with the choices available. Keep score. What percentage can you do correctly? Which subjects were difficult? Any time you do not know how to solve them, or why you have chosen a wrong answer try to determine the reasons behind your failure (what did I not know?). Seek help if needed. Participate in the evening review sessions.

Work extra hard with the problems. Seek more information from your book, your TAs, or your lecturers. Determine exactly what aspect of the problem you do not understand. This may take more time than you are used to giving to a course. Do not merely memorize the answer: this will not help you when you encounter a new question on your own exam. You want learn to think "chemically", not to memorize.

**Final self-evaluations** (start three-four days before the exam)

8. Take a practice exam under the "real" test conditions. Get familiar with the format and test instructions on the cover page. Time yourself. Do the whole test in one session without interruptions (no TV, no music). Evaluate your results critically. Did your percentage score improve? Did you still have problems with the same subject material? Have you discovered a new weakness? Get back to work. Remember, you must find out why you have problems with some of the questions.

9. Take the most recent exam. It will be your best indicator of what is to come on the "real" exam, and how well you are prepared. Time yourself. For each question, make a note how sure you were of your choice. If you were guessing you are not entitled to count any points. If you were not sure why a given answer was the correct one (you did memorize something, but could not really explain why) give yourself only half a credit. Now carefully count your points nothing for guessing, half for the unexplainable, but correct, choices) and subtract from 5% (if you deal well with the exam stress, and feel that luck is with you) to 10% (if you are prone to "stupid" mistakes) from your score. That is how well you are prepared. If you can live with that score, you may relax and just do light reviewing during the remaining hours. If your score is below your expectations, you still have time to fix some (if not all) newly discovered deficiencies.

10. Get ready for your "real" exam. Rest and relax the last few hours (if possible). The last-minute "cramming" is usually counter-productive. Take the test with the attitude that you can do it. Your goal is not to get the perfect score. Your goal is to get the highest score possible, without false expectations. How well did it go? Did you do better than you thought? If so, your exam preparation was about right. If you struggled, then you need to increase your effort, adjust your preparation strategy, and of course, fix the holes discovered on the real exam in the preparations for the next (cumulative) test.

If you find yourself saying that "I did all of the problems and all of the old exams, and I still did poorly", then you went through the motions without developing active knowledge of the material. This may be harder than you think. But this is the way to go. This is the way to master organic chemistry, to learn how to learn, and to develop your critical thinking skills.

Good luck!