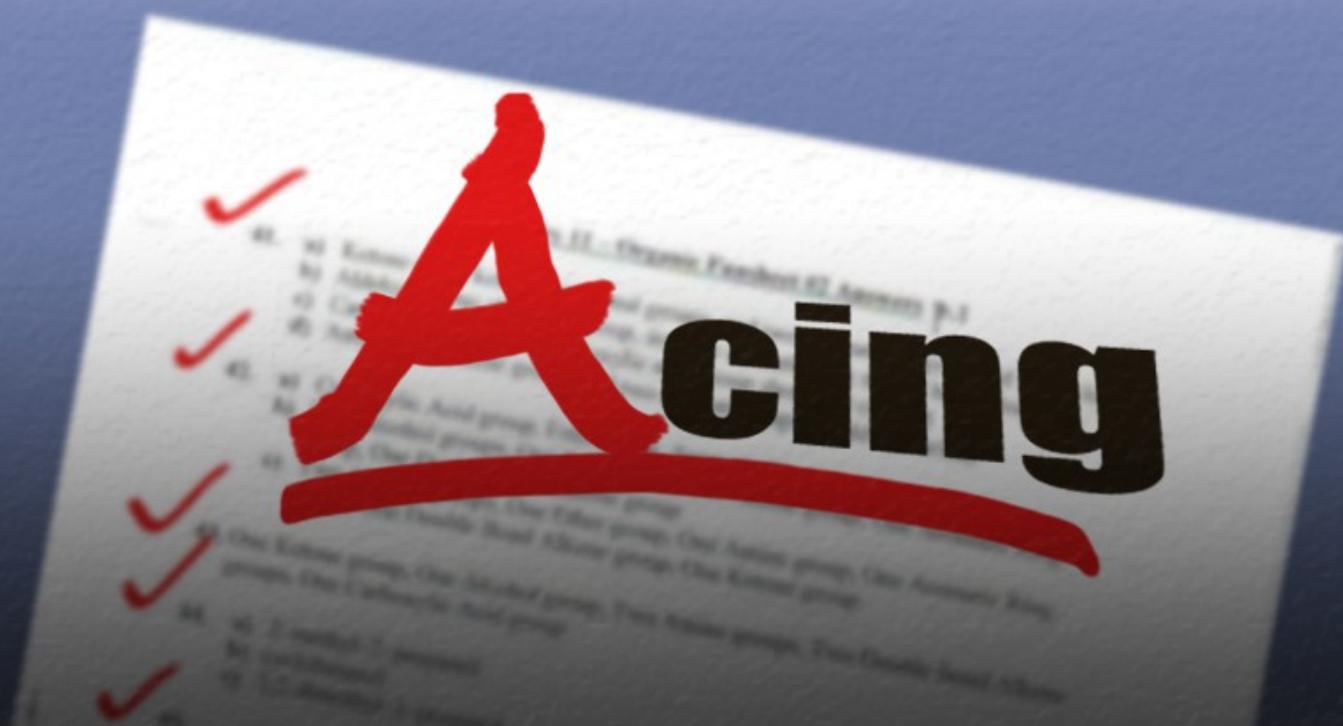


10 SECRETS TO



ORGANIC CHEMISTRY

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10 Secrets to 'A'cing Organic Chemistry

By Leah Fisch

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INTRODUCTION

Why I Am Writing This e-Book

Organic chemistry is considered to be one of the most difficult science courses in college. However, it is a requirement if you are pursuing a career in medicine, dentistry, pharmacology, veterinary medicine or anything else science related. Although the material is not inherently impossible to understand, students often find it impossible because they simply don't know how to approach this class.

If you don't know how to properly approach a course with difficult material, you will fall behind quickly. Instead of enjoying this challenging course, you'll find yourself struggling to stay awake and to stay with it. I found organic chemistry to be difficult at first but once I figured out the best way to approach the material and how to study, I realized that this class was not only doable, but actually fun!

Organic chemistry is not like the other science classes in which you simply learn the formulas, memorize them and plug them in. In organic chemistry there are puzzles and reactions and sequences that while difficult at first, if you can understand and answer the questions and follow a challenging sequence, it's actually an exciting and satisfying feeling!

My goal with this e-book is to help you reach that understanding and experience that satisfying feeling. I want to give you the ability not only to survive your organic chemistry course but to enjoy it! If I succeed, you will no longer view orgo as a tedious course that you are forced to take and suffer through. Instead, you will get pleasure from it and possibly take your organic chemistry mastery with you to your graduate level studies.

Perhaps, like me, you too will find organic chemistry to be one of the most exciting classes in your college career. If you follow the secrets in this e-book you can learn how to master organic chemistry, or at the very least survive it. And the bonus plan is that you can apply the study tips and tricks in other courses for the rest of your college career and into your graduate studies!

SECRET # 1

Read Before Class

The mind works in mysterious ways. When you learn something for the first time, you usually pay attention, absorb some of it and probably think, “Oh, that’s interesting.” But you’re likely to forget it. The more you hear about a particular topic, the more information you absorb and consequently, the more you are likely to remember about that topic. When it comes to difficult material, the process is no different.

My first tip is to **read the textbook before each class**. Get a syllabus before the first class if possible or just try to find out what the professor will be covering in the first class and read those chapters. Before each class read the handouts or chapters in the book that the professor will be covering.

Without this basic preparation, even if you sit in the front of your organic chemistry lecture and pay close attention to what the professor is saying, you will likely get lost very quickly. Even if you manage to follow the particulars provided in a lecture, your mind will be so busy trying to process that information that you won’t actually learn and understand the deeper meaning. If you read the material before class, whether you understand it or not, at least you will be somewhat familiar with it, and believe me, that will help. Don’t get too frustrated if you don’t understand it all. It will make sense later.

When reading the chapter for the first time, you are simply exposing yourself to the basic concept. You will grasp some ideas and question others. At least you will have a foundation to build on. When you get to class and hear your professor lecture on the material, you’ll find that you do recognize some of the information. Therefore your mind will not be so busy trying to process the information and you can actually learn and understand it.

In this way, you can focus on the more difficult concepts being addressed and the important questions being asked and answered. Some of the questions may be the same ones you had in mind so you will recognize them and therefore pay attention to those explanations. This will ensure that you get a much better learning experience out of every lecture. Best of all, if you understand what is being said, you will be able to ask better questions, which will in turn improve the quality of the information that you get out of the lecture.

SECRET # 2

Take Notes

This secret may sound pretty obvious but many students will find “good” reasons not to take notes. For example, a recent student of that class provides you with his/her old notes or your professor teaches directly from the textbook, or even better, your professor provides you with a set of slides that you are able to print out ahead of the lecture.

You may think you already have the information so you don't have to take notes. **Not true!** There is a direct line between your hand and your brain in the process of taking notes. When you write down the information, you automatically think and process that information so you force yourself to understand it on a deeper level. Taking notes has other benefits as well. If you actively take notes on lectures, you are less likely to get bored or tune out the information because you have to pay attention in order to know what to write down!

Lastly, all professors, even though they are following the same general sequence of material, will tend to focus more on certain concepts and less on others. If you take notes you can pick up on the topics that the professor emphasizes heavily in class and on the examples he mentions, which are likely to show up on your exam. Therefore, by taking notes you will be much more familiar with the material that is important to the professor and probably better prepared for his/her tests.

SECRET # 3

Read the Textbook Again After Class

You might think, “I already read the textbook before class; I attended the lecture; I understand the information. **Why should I read the textbook again?**” Here’s why. Now that you have a basic understanding of the information if you read the chapters again you will get final clarification, “Do I know this topic or not? Do I need to go back and study anything again? Where do I need to focus my study energy?”

By reading the textbook again after class, you can systematically go through the information to see where you stand and to test yourself. The typical organic chemistry textbook provides a little bit of information at a time, followed by a challenge question.

Accept this challenge! Don’t simply jump through or pass over these questions. Try to answer them. If an example is provided as an explanation of a concept in the textbook, turn the concept into a question and ask yourself what the answer is before looking at the way the book explains it. This way you can see if you are comfortable with the information already covered or if you need to go back.

If you’re comfortable with the information, great! Move on! If you’re not comfortable with it, go back and restudy that information because the concepts will continue to build on each other. If you start losing that foundation, as the chapter proceeds with more difficult concepts and questions, you’ll find yourself quickly falling behind.

SECRET # 4

Practice, Practice, Practice!

Organic chemistry is not one of those subjects that if you simply learn the information and understand it you'll be able to pass the exam. Professors (and books) will go out of their way to twist a known concept into a difficult question. You may have mastered a particular concept, but the questions may be presented in a way that will potentially confuse you unless you have seen that style of question before.

Therefore, you have to constantly practice or review the information in a way that allows you to process the material. Doing practice questions will teach you how to think beyond the simple presentation of topics

In addition to going through the problems within the chapter, every organic chemistry textbook has about 50-100 practice problems at the end of the chapter. While some of the problems are very similar, each will have one slight difference that will force you to think beyond the simple topic studied.

By solving these problems again and again, you'll find that no matter how the question is presented, you will be comfortable tackling the concept. When you get to the exam, you'll realize that the exam questions, while different from what you have learned, follow the same patterns you have seen in your end-of-chapter problems. You will feel confident as you plan your reaction sequence and draw out lengthy mechanisms.

The best part is...it is likely that your professor only assigned a handful of study questions. However, the questions that were NOT assigned may very well be the questions that show up on your exam. Some professors will simply look in the textbook, see the question at the end of the chapter, change a little detail here and there and give that as the exam question.

When you do more practice problems, you are more exposed to the material and may have already seen a question that will show up on your exam. By doing additional problems, you will reduce the chance of being 'surprised' by a difficult question type on the actual exam. So go ahead and challenge yourself as much as you can.

SECRET # 5

Beyond the Textbook: Supplemental Material

While your textbook is designed to give you a lot of practice and study material this may not be enough. You will benefit tremendously from reading supplemental information, which includes, but is not limited to using the solutions manual.

When you are studying the end of chapter problems or questions, you might have the answers in the back/appendix of the book, but you don't have the solutions. If you get the questions right, great! You know the material. If you don't get the questions right you're stuck and what is the purpose of doing of 50 problems if you don't know the 50 solutions?

The solutions manual helps you go through each question step by step to ensure that you not only know the answers, but you know how to get them. If you need to refer to the solutions manual when answering a question, that's fine. Go through the mechanism step by step.

However, once you think you understand the solution, try the question again and again, as many times as it takes until you are comfortable answering the questions by yourself without having to refer to outside information. There are additional practice books that you may find online, such as [Organic Chemistry for Dummies](#) and [Organic Chemistry as a Second Language](#).

You are not limited to just these books, however. What you need is another set of questions and practice problems with solutions you can work through that will supplement what's in your textbook. Other resources include study guides, cheat sheets and [video tutorials](#) that not only give you the answer, but actually take you through the step by step process with visual representation to help you understand. Last but not least, I highly recommend that every student buy an [organic chemistry model kit](#) to help you work through the visual understanding of some of the concepts covered. Organic Chemistry is a three dimensional subject; however, you are expected to answer mechanisms and solve problems on two dimensional paper. For some students it's very easy to visualize, but others need 3D representations to help explain certain concepts, such as Newman Projections and Chair Conformation. One simple model allows you to see the interaction between the groups and gives you a much better understanding of the information.

SECRET # 6

Understand, Don't Memorize

It's very easy to look at your organic chemistry textbook and panic, "Oh my God, I need to start memorizing everything." but that is not the case. When you memorize you forget; if you forget, when you see questions on the exam, you are going to be lost. However, if you understand the information, you can infer from the question. In other words, use logic to answer what is asked and you will probably get it correct.

Organic Chemistry is not a science that is solved with plug and chug formulae. Each question or problem can be presented in many different ways. If you just memorize the answer to a particular question, you will only be able to answer questions that are given to you in the exact format of the mechanism or problem that you have memorized. If the problem is changed ever so slightly you will be completely lost.

As you go through the material, keep asking yourself, "Why does this happen? How does this reaction proceed? How does this mechanism occur?" If you have a very thorough understanding of the material then you don't have to memorize. If you practice the questions and mechanisms and do the same problems again and again, you will have memorized what is needed by default, based on a solid foundation of understanding.

SECRET # 7

Study Group

When you study the material by yourself, applying all of the above secrets, you will certainly get ahead of your class and reach a decent level of understanding. However, when you are studying by yourself, you are limited to the knowledge that you have, limited to your ability to understand and learn the information. When you study with other people, you combine resources and help each other out. This will help you learn material that you don't know, and strengthen what you already know.

When forming or joining a study group, make sure all the members are serious and dedicated. If they aren't, they will distract you and take away from your study time. When studying in a group, take turns asking each other questions and explaining the concepts to each other. If you still don't understand the concepts, ask a friend in the group to explain it to you individually. And when your friend doesn't understand the concepts, and you do, you can explain it to her/him.

This will help you in two ways. First, when you explain a concept to someone you have to think of a way to make it simple so the other person can understand it. Simplifying the concept will also help you understand it so much better because you have to verbalize it in a logical manner.

Second, if your friend asks you to explain a concept that you think you know, and then in the course of your explanation you realize that you don't know the material as well as you thought you did, you still have time to go back and study this information some more. Then when you get to the exam you'll be a lot more confident.

Another advantage of a study group is that if a question comes up that nobody can answer; everyone can look up the information. Chances are, with multiple people searching, you'll get a more complete answer and faster than if you were looking alone.

SECRET # 8

Peer Tutoring

Most colleges have a learning center where a student who has previously taken organic chemistry can help you learn the information. Keep in mind that peer tutors are students themselves, but in order to qualify for this position, they likely got an “A” in the course. If they had the same professor, they can give you some insights on his/her teaching and testing style and also give you a basic overview of the information.

SECRET # 9

Office Hours

Most organic chemistry professors and TAs will have a few hours during the week in which you can go to their office and ask questions. This is a very valuable resource that you want to utilize as much as you can. Your professor and your TA are the very people who will create and grade your exam. If you ask them how to answer a question or solve a problem, they will show you the logical approach that you should be using on your exam.

In addition, when your professor shows you how to do something, s/he may bring examples that are similar to what will be on the exam. Organic chemistry tutoring, especially from a highly qualified tutor is very expensive. So take advantage of your professor and your TA's free services when you can.

SECRET # 10

Private Tutoring

All of the above tips are very helpful and I highly recommend that you utilize each of them to some degree. However, there may be special circumstances that prevent you from using some of them to the best of your ability.

Many students have trouble studying and learning on their own. Meeting up with a study group can be a hassle when you have a hectic school/work/family schedule. While peer tutors are useful, you may find some of them are not as qualified as you'd like them to be, or if they are, their sessions are so overcrowded that you don't have an opportunity to ask your pressing questions.

Even with Professor/TA office hours, you may find that your schedule conflicts with their availability, and when you do manage to make the appointment, the office is overcrowded.

Under these circumstances you should hire a private tutor, which is like having your own personal professor. A private tutor will teach at your pace and level, answer all your questions and take you step by step through the concepts with which you have difficulty.

A professor might take it for granted that the class understands a certain concept and therefore not spend time on it. A private tutor will know exactly where you need help and s/he can break it down, find the right approach, create questions for you and help you with your homework problems. A tutor will save you a lot of study time because s/he can provide clarity for you much faster than you can achieve it yourself.

And while a good private tutor doesn't come cheap, you can view the expense as part of your education. Paying for one or two weekly tutoring sessions is likely more economical, in time and expense, than retaking the class.

If you don't know where to find a private tutor you can of course book a 1-1 session with me through [my tutoring page](#) or find a local tutor in your area through [WyzAnt Tutoring](#)

APPRECIATION

Thank you for downloading *10 Secrets to 'Acing' Organic Chemistry*. I hope you enjoyed it and found it helpful in your mission to succeed in your organic chemistry course.

Although you received it for free, please remember that a great deal of time, effort and expense went into the creation of this book. Please respect these efforts by not copying or distributing all or any part of this e-book. Instead, please send your friends and classmates to [my Subscribe Page](#) so they can download their own free copy.

Good luck!

Leah

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ABOUT THE AUTHOR

Leah Fisch has had a passion for the sciences ever since she was little. Perhaps the Magic School Bus was part of the inspiration, or perhaps her desire to learn what makes things 'tick'. This enthusiasm led her to complete a dual degree in both Chemistry and Biology. To further satisfy her passion and to help enlighten others, she has been tutoring high school and college students in general and organic chemistry and other sciences for nearly a decade. Leah's students love her informal, down to earth teaching style, based on understanding, and her simple explanations delivered on their level. They are grateful to be able to actually enjoy the learning process rather than memorize the material.



During college Leah joined the US Navy Reserves and served with the Maritime Expeditionary Security Forces while working on her degrees. She has served in both Iraq and Kuwait in support of both Operation Iraqi Freedom and Operation Enduring Freedom

Leah currently lives in New York with her family and a little brown bunny. She enjoys sculpting miniature fantasy creatures in polymer clay, swimming and bike-riding



LINKS AND RESOURCES

Organic Chemistry Home Page: <http://leah4sci.com/organic-chemistry>

My Video Library Page: <http://leah4sci.com/organic-chemistry-video-library/>

Online Tutoring with Leah: <http://leah4sci.com/organic-chemistry-tutor/>

Local Tutoring through Wyzant: <http://WyzAnt.com/#ref=1QTFGX>

Organic Chemistry Study Hall Membership: <http://studyhall.leah4sci.com/join/>

Leah4sci YouTube channel: <http://youtube.com/Leah4SciTutorials>

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