

Every year multiple students complain that “organic is too difficult, there is too much material, professor goes too fast, exams are too hard”. At the same time, most (on the order of 80%) of these students intend to apply to medical, pharmacy, dental, or optometry schools.

I asked some former students, who did well in Organic 1 to compare the difficulty of Organic Chemistry to medical, pharmacy, etc schools. See below their answers, and consider, in context of their answers, what it means if a student thinks that Organic Chemistry is too difficult and at the same time wants to become a health professional such as doctor or pharmacist.

Additionally, the student from UTMB is willing to answer your questions about medical school. Send me an email and I will give you her contact information.

### 1. Pharmacy School (student graduated from Texas Tech)

Hi Dr. Daugulis,

Good to read from you. I am doing well and no I am not getting rich nor famous, schools are zapping all of my funds. I hope you are keeping well yourself.

Regarding your question: **organic chemistry is not difficult at all**. There will be more difficult courses in pharmacy school. I think students need to stay focused and put in the hard work. Nothing good comes easy.

Have a blessed day

Bridget

### 2. Optometry School (student graduated from UH Optometry)

Dr. Olafs,

The course load definitely compares to the organic chemistry course. We have a set schedule of about 10 courses every semester. This includes about 6 lecture classes and 4 labs. There is a great amount of material the professors expect you to keep up with, just like in organic chemistry. **In other words, every semester of optometry school is equivalent to about 5-6 organic chemistry courses.** You have to study every day and over the weekends to keep up and receive good grades. I believe the organic chemistry course is a good example of the difficulty level of many courses here. If they are having trouble keeping up with organic chemistry material and are NOT studying during the week and over the weekend, optometry school will feel like a slap in the face.

Hope you are doing well,

Natalia

### 3. Medical school (UTMB Galveston)

Hi Dr. Daugulis!

Medical School is going really well! We finished Gross Anatomy and Radiology last month, and are now in the middle of Molecules, Cells, and Tissues which is a hodge podge course of biochem, orgo, biology, chemistry, histology, and molecular biology. My comparison will only be from these two courses, **which are some of the easier courses out of the 4 years of medical school.**

I enjoyed Organic Chemistry at UH. I have found that many undergraduate classes are not necessarily hard, they just take hard work. I had to work to get and A in O chem. If i didn't understand a reaction, I would study it until I did. It is the same in medical school so far. The material is not difficult yet in 1st year, I would say it is comparable to undergrad. But the volume is tremendously high. We also have a lot of other requirements to balance our time with, like clinical site visits, small group case sessions, volunteer work, organization, standardized patients, patient worksheets, and much more. **To say medical school takes a lot of work is the understatement of the year. If you find Organic Chemistry to be hard, but are willing to put in the hours in the library to master the material, you will do really well in medical school. If you dread the basic science courses like Ochem, hate having to study extra, then allow yourself to consider other fields.** I ask everyone who wants to be a doctor, "Can you see yourself happy doing anything else with your life?" If the answer is yes, then do that. It won't take 8 years of school plus 3-7 years of rigorous training as a resident working 80 hours a week. You don't have to be a physician just because your parents are, because you thought you wanted to when you were little, or because you think it will make you a lot of money, or give you social prestige. There are many reputable, interesting fields that will give you a satisfying life, like engineering, or nursing. Have a really good sense of what physicians do, because as entertaining as House, and Grey's Anatomy are, I promise it's nothing like that. The best way to do this is by extensive shadowing in different fields, or better yet SCRIBE!

If you have considered other fields, know that you cannot see yourself being anything but a doctor, and are willing to put in the work to do well in undergrad, you WILL do well in medical school. It truly is a beautiful profession. The science we are learning will literally save lives. Think about that when you are trying to learn mechanisms in organic chemistry. This is the foundation to a science that will give a mother back her son, a husband back his wife, a daughter back her father.

I have also asked some classmates how they compare undergrad O-chem vs medical school, here's what they said:

"You have time to digest things in Orgo, as well as every other class in undergrad. I don't believe the content in med school is \*harder\*. It's just more dense. You just have information overload. And as soon as you start to feel like you got the hang of things, you're on to the next subject."

"Medical school acceptance is becoming more and more competitive, so grades matter. Especially since you'll see Ochem again and again as a basic foundation. **There are more routes in healthcare than just being a doctor, so don't be tied down to just going to medical school if you find out early that it is not for you (like hating Ochem and other basic sciences).**"

"To me this is how it feels: In high school, we covered 1 semesters worth of learning in 2 semesters/ In college, we covered 1 semesters worth of learning in 1 semester/ In Medical School we cover 1 semesters worth of learning in 8 weeks."

"I know people who struggle through ochem despite enormous effort. Personally, if you ask my classmates at UT, studying ochem was the day before the test and skipping lecture. It just comes to me - sorry I hope this doesn't come off snobbish - for reference, I had 120%+ (w/ curve) on each ochem exam. Whereas med school is analogous to the firehose - you never really catch up to the material, and I've been barely passing classes."

**"I went to UH and I personally thought O chem was a breeze - I think the lowest grade I had was a 96? So I'd say med school is much harder than O Chem"**

"I would say, in addition to what has been stated here, to give them the advice that med school is a blast! I have never had more fun in my life than being in med school. I love what I'm learning and I feel incredibly blessed to be surrounded by such wonderful people. We get to learn something new every day that can have an impact on people in the future. How cool is that?!"

"In general, I'd say that undergrad was more difficult in the particular details of the information, because you have more time to cover things. Med school is more difficult not in the content, but in the sheer volume of information you have to shove into your brain in the shorter amount of time. So I'd say undergrad is best for learning the specific mechanistic details of science, while med school is best for getting the big pictures and correlating those to clinical problems."

**"I'd say biggest advice I would give is to really take the time to understand the basic principles that underlie all of the mechanisms you see in Ochem/biochem.** Learn the mechanisms, understand why things happen the way they do, not just what happens. In undergrad we had the time to really dig deep into stuff like that, but it's also something you take for granted because a lot of classmates just wanted to get an A and get out. Getting a solid background in all of that stuff really helps in med school, because while you don't have to know stuff at the super deep and detailed mechanistic levels at first, the sheer amount of big picture stuff that's thrown at you is sometimes overwhelming. But by doing what I

mentioned it all becomes more intuitive and it's easier to wrap your head around things and string clinical correlations together if you truly understand WHY certain reactions occur. And if you can wrap your head around the more complex mechanistic stuff, you'll be fine in med school so long as you're willing to commit more hours to studying."

"There is a lot of variation in undergraduate, depending on major, course load, and institution. There's also institutional variation amongst medical schools. Regardless, I'd say medical school is harder than undergraduate but easier than what medical students say it is. I work really hard right now, but I also worked really hard throughout the science portion of my undergraduate education at UCSB. **I'd say that Ochem is a good approximation of the difficulty of medical school.** Overall, the biggest difference to me is not the volume of information but the character - a lot more memorization."

Sincerely,

Wendy