

## Ari's 2016 Study Guide For DAT Domination

### Preface

It's been a few years since the first publication of this study guide, and in that time thousands of students have worked through this schedule with great results. The DAT Bootcamp team and I are proud to present to you, the newest generation of future dentists, the blueprint to scoring an excellent DAT score. In this updated study schedule, you'll find the recommended materials to use, general DAT advice, a day-by-day study schedule to keep you on the track to success, and a breakdown on how to tackle each section of the DAT.

Many students have asked me about the **changes to the DAT in 2016**. I have some good news for you! The ADA updated the [DAT webpage](#) under DAT Newsletters to say the changes they talked about are no longer being implemented. Below is the message reprinted:

*"Please note that all DAT content changes indicated in Volumes 4 and 5 of the DAT Newsletters **will no longer be implemented**. This includes changes to the Biology, Quantitative Reasoning, and Critical Thinking sections." – ADA Newsletter*

Volumes 4 and 5 of the DAT Newsletters were the ones referring to changes in the biology and quantitative reasoning sections. Therefore, please do not neglect trigonometry, geometry, etc. because you heard the DAT was changing. All these subjects are still important for you to know to do well on the test. Note it's still possible the test will change going forward, but at least we know it's remaining the same for now. My recommendation is to study how we always have, and that is the path to the highest scores. If you continue to work hard and study, you will do well, and that will always be true.

### **Finally, 3 quick tips as you prepare for the DAT:**

- 1.** Create a study schedule that goes over what you need to do day-by-day and stick to it. Readjust the study schedule if necessary.
- 2.** Take regular breaks. Try to study for 50 minutes and then take a break for 10 minutes. Take one day off a week to relax so you don't burn out.
- 3.** If you don't feel ready to take the DAT, reschedule the test for later. It was the best decision I made while studying.

To your success,

Ari

## Introduction



So, you want to dominate the DAT? This guide is a combination of everything I have learned about test taking, the best study materials, and the DAT itself. I'm Ari, founder of DAT Bootcamp, and in this guide I will outline a study plan that has worked for myself and many other people. I'm going to go through some general DAT advice, the recommended materials to use, and a breakdown on how to tackle each section on the DAT.

**Before we get started, it's important to note there are many ways to ace the DAT. This is just one way that's been used by many students.** Some students only study 1-2 weeks and ace the DAT, others like myself take up to 3 months. Some students only use their college textbooks and notes while others buy review guides. It all depends on how good of a foundation you have in the basic sciences, along with your test taking skills and endurance. You can personalize this study guide to reflect your strengths and weaknesses.

## Register to Take the DAT

<http://www.ada.org/en/education-careers/dental-admission-test/>

Be sure to follow the steps exactly as specified on the ADA's website. **Read all of the guides and checklists provided so that you don't run into any trouble on test day.** Apply early so that you can get your first choice of when and where you want to take the DAT. [Also, it would be wise to order the 2009 DAT practice test at this time too.](#) Yes, you have to actually print out the form and mail a money order or certified check (old school style).

You can also order the web-based version of the 2009 DAT, but I don't recommend it (read why: <http://datbootcamp.com/blog/do-i-need-the-paid-2009-dat-practice-test/>)

## Sign Up at Student Doctor Network (SDN)

<http://forums.studentdoctor.net/forums/dat-discussions.70/>

This is an extremely resourceful website while you study for the DAT, and it's free! I recommend signing up for two reasons. First, if you ever have a question on a scientific topic, practice problem, or something about the DAT, it's very likely that someone on there will help you out.

Second, you can help out other people with their questions. You remember 10% of what you read, but 90% of what you teach. Even if you don't know the answer to someone's question, look it up and explain it to him or her. You'll learn something new, it'll stick with you for a long time, and you will have actually helped someone else out.

### **“Should I take a test prep course like Kaplan, or self-study?”**

This is one of the first questions people have when they begin to study for the DAT.

It depends on your studying style. People normally either take a test prep course or self-study, and there are students who are successful both ways. One of the advantages of a commercial test prep course, like Kaplan, is that it's all preset and designed ready to go, so there is no work on your side to research what to do and what to study. The downside is you're stuck with the resources they provide, which in my opinion aren't worth the price tag, and it's quite costly at \$1400.

An advantage of self-study is that you get to decide what you want and tailor your study schedule to exactly what works for you. Plus, it's significantly more affordable and provides better course materials. Most importantly, I think students that self-study score better because they motivate themselves to study, and aren't waiting for someone else to tell them the next step. The downside is that you'll have to spend some time designing your own study plan. Fortunately, we're providing a self-study plan that has worked for many dental students and can be easily personalized to your own liking.

## How is the DAT Scored?

The DAT grades you on 6 different subjects: Biology (BIO), General Chemistry (GC), Organic Chemistry (OC), Perceptual Ability (PAT), Reading Comprehension (RC), and Quantitative Reasoning (QR). Each subject is scored on a standardized scale out of 30 points. The average test taker will score a 17 (50<sup>th</sup> percentile).

In addition to the 6 scores you'll receive above, you'll get an Academic Average (AA) score, which is the most important number. The AA is the mean of your scores, without the Perceptual Ability score (i.e.  $AA = (BIO + GC + OC + RC + QR) / 5$ ), rounded to the nearest integer.

## “What Do I Need to Score on the DAT?”

The average for acceptance is a 19-20AA (~85<sup>th</sup> percentile). This is just an average though, a quick look at the ADEA Guide to Dental Schools shows that students get accepted with lower scores as well!

Many schools also have cutoffs for minimum DAT scores. Each school has a different cutoff, and some have no cutoff. I know of one student who was accepted to the University of Florida with a 14 in QR, on the condition that he retake the DAT and score at least a 15 in each section to meet their cutoff. Talk about pressure!

## “How Many Questions Do I Need To Answer Correctly To Get a 20?”

Generally speaking, you can only miss around 5 questions in each individual science and math section to score a 20, the average for acceptance. Scores of over 23 are very rare (98<sup>th</sup> percentile and up). You can miss around 20 questions in the perceptual test to score a 20. And lastly, you can miss around 10 questions in the reading comprehension section to score a 20. These are just averages, there are many different versions of the DAT being tested at the same time. Every DAT is scaled differently according to its own difficulty.

As you can see, there isn't much room for error on the DAT. In addition, you don't have a lot of time for each question. You have to know how to get to the correct answer and the fastest method to get there. Using DAT practice tests will help you build these skills.

## A Word About Retakes

First, you should **NEVER take the DAT just to see what it is like**. Never walk into the exam thinking you can just retake it if you bomb this attempt. You should walk into the exam knowing you've worked hard and are ready to give it your all on the first try.

You should always consult your pre-health advisor if you're planning on retaking the DAT. Some people end up retaking the DAT when they had perfectly good scores to start with, and end up wasting time and money. In addition, each dental school looks at retakes differently. Some dental schools only consider your highest set of scores, others average all your attempts together, and some only consider your latest set of scores. All in all, it's important to avoid retaking the DAT unless necessary. If you're retaking it, you need to try to score well on this attempt.

Of course, there are many people who retake the exam and get accepted into dental school, so it's not the end of the world if you need to retake it. I know people in my class at Columbia who retook the exam, and admission committees know sometimes things just don't go right. You just have to learn from your experience and figure out what to do different next time to prepare better.

## Materials and Resources

After discussing with many students what study materials they found most effective for acing the DAT, I found a common pattern of material that all the high-scorers were using:

### Biology:

- Use either of the following two books. Having both books is not necessary:
  - Cliffs AP Biology 3<sup>rd</sup> Edition ([Free here](#)). I've heard mixed reviews about the 4<sup>th</sup> edition and only recommend the 3<sup>rd</sup> edition for now.
  - Barron's AP Biology (lots of good reviews too, I haven't personally used it).
- Biology Crash Course YouTube Playlist:  
<https://www.youtube.com/course?list=EC3EED4C1D684D3ADF>
- DAT Bootcamp Biology Practice Tests

### General and Organic Chemistry:

- [www.CourseSaver.com](http://www.CourseSaver.com) - These videos are good for reviewing general and organic chemistry.
- DAT Destroyer
- Khan Academy: Set of free videos to clearly explain any concept in either of the chemistries.
  - <http://www.khanacademy.org/science/chemistry>
  - <https://www.khanacademy.org/science/organic-chemistry>
- DAT Bootcamp General Chemistry Tests
- DAT Bootcamp Organic Chemistry Tests

## **Materials and Resources**

### **Perceptual Ability:**

- DAT Bootcamp PAT Practice Tests and Question Generators
- PAT Trainer Game: Play this game to enhance your perceptual ability. This is some of the best practice you can get, and it's free:  
<http://datbootcamp.com/classroom/perceptual-ability/pat-trainer-game/>

### **Reading Comprehension:**

- DAT Bootcamp RC Practice Tests
- Scientific American: Great source to provide interesting science articles. Pick an interesting article or two everyday and you'll notice your reading improve over time. <http://datbootcamp.com/classroom/reading-comprehension/>

### **Quantitative Reasoning (Math):**

- DAT Bootcamp Quantitative Reasoning Tests
- Math Destroyer
- [www.CourseSaver.com](http://www.CourseSaver.com)
- Khan Academy for Math: <https://www.khanacademy.org/math/algebra>

## Materials and Resources

### Total Cost of All Materials

- ★ [DAT Bootcamp \(\\$137 for all practice tests and tools\)](#) -  
www.DATBootcamp.com/classroom/upgrade
- ★ [CourseSaver \(\\$50/month, \\$150 for 3 months\)](#) -  
This site has a 15% off coupon: <http://www.mcatquestionoftheday.com>
- ★ [DAT Destroyer and Math Destroyer \(\\$200 and only sold in print\)](#) -  
www.orgoman.com
- ★ Cliffs AP Biology 3<sup>rd</sup> Edition book (~\$15)  
Either Amazon or free [PDF version available here.](#)
- ★ [2009 ADA DAT Practice Test \(\\$34\)](#) -  
(yes, you have to print it out and send a certified check or money order)

**TOTAL: \$498.50** (compare to \$1400 for a test prep course)

## Section Breakdown

The DAT consists of 4 sections: Survey of Natural Sciences, Perceptual Ability, Reading Comprehension, and Quantitative Reasoning.

### Survey of Natural Sciences

You'll have 90 minutes to answer 100 multiple-choice science questions. The test consists of 40 biology questions, 30 general chemistry questions, and 30 organic chemistry questions, in that order.

### Biology

The biology section is probably the toughest to prepare for because of the breadth of the material. For this section, we are going to read and memorize all of AP CliffsNotes Biology (except the lab information in the back) and take a lot of notes. DAT Destroyer is good for learning a lot of little facts as well. DAT Bootcamp will tie everything together and get you ready for the real DAT.

An SDN member uploaded their comprehensive biology notes to our website which covers nearly everything under the sun. I highly recommend giving this a read through after you're done reviewing the AP biology book:

<http://datbootcamp.com/feralis-biology-notes/>

**However, the best way to prepare for the biology section on the DAT is to create your own set of notes.** It's good to review these notes if you need to look up something in particular, but you'll see significantly better results if you take the time to make your own notes. It's relatively simple, just make a two-column table in Microsoft Word and write the topic in the left column, and all the details in the other column. Draw your own diagrams on paper if you need to (helpful for learning how photosynthesis and respiration work, for example). You can also make flashcards from your notes and review for a little bit of time wherever you are (highly recommended). However, DO NOT copy and paste things into your notes, you have to write your notes in your own words for this to be effective.

## General and Organic Chemistry

Both of these sections individually consist of 30 questions and are part of the Survey of Natural Sciences section too. For this section we will use Chad's videos to learn the material and create comprehensive notes (this is key). We will then use DAT Destroyer to go through a barrage of challenging questions so we can continue to fill in our gaps of knowledge. Finally, we'll use DAT Bootcamp to tackle the conceptual questions and tie everything together.

## Perceptual Ability

Unless you're in architecture or engineering, it's likely you have never encountered this material before. You have 60 minutes to complete 90 questions that test your spatial and perceptual abilities. The 90 questions are broken up into 6 sub-sections, including: keyholes, top-front-end, angle ranking, hole punching, cube counting, and pattern folding (in that order).

The good news is that anyone can learn how to beat this section. It'll be frustrating at first, but if you stick with it and carefully review the solutions, you'll begin to know what to look for. We'll be using DAT Bootcamp PAT practice tests and solutions.

### PAT Trainer Game

<http://datbootcamp.com/classroom/perceptual-ability/pat-trainer-game/>

This is probably the best free practice you can get to develop your spatial and perceptual abilities, plus it's fun. Play this game everyday during your DAT prep, make a habit to do it during your lunch break or when you're waiting for something to download. Try to beat my high score of 2.10.

### Instructions for the PAT Sections

\*\* [View the official instructions to the PAT on the ADA's website](#) \*\*

Keyhole instructions: Page 24

TFE instructions: Page 28

Angle ranking instructions: Page 33

Hole punching instructions: Page 38

Cube counting instructions: Page 43

Pattern folding instructions: Page 48

## Keyholes

[View the official instructions to the PAT on the ADA's website.](#)

[Watch this video on the keyhole section](#)

Keyhole instructions: Page 24

A 3D object is presented and you have to determine which aperture it will perfectly fit through, like a key in a lock.

Always start by looking at the answer choices and try to match them up to the 3D object. Use the process of elimination, look for which answer choices will NOT work and eliminate them. Often these questions will be proportion-based, so you will have to judge distances and slopes.

## Top-Front-End

[View the official instructions to the PAT on the ADA's website.](#)

TFE instructions: Page 28

Two 2D images of a 3D shape are provided and you are asked for the third 2D image. A solid line is a change in elevation that you can see; a dotted line is a change in elevation you cannot see. Check out this tutorial for an in-depth explanation:

[DAT Bootcamp TFE Tutorial](#)

Tackle these problems by focusing in on one single piece of the image in the two given views. You should focus on any walls or unique looking pieces of the image. Using that information, try to determine which of the answer choices matches up correctly to that area. Eliminate answers that do not properly match. If you cannot eliminate any answer choices, choose a different piece to focus on and see if you can eliminate answers. Rinse and repeat until you have the correct answer.

It's important you **DO NOT use the line counting method** when practicing for this section. Line counting is an old technique that used to work on older versions of the DAT. However, line counting will eliminate either none or only one of the answer choices on the updated DAT. You need to be able to visualize the 3D object.

## Angle Ranking

[View the official instructions to the PAT on the ADA's website.](#)

Angle ranking instructions: Page 33

[Watch this video on the Angle Ranking section](#)

[Start using DAT Bootcamp's Angle Ranking Generator to increase your angle ranking skills.](#)

A set of four angles is presented and you have to rank them from the smallest angle to the largest angle.

This section is probably the most frustrating to get better at. Play our Angle Ranking Generator game to keep getting new angles to rank. Try to spend the least amount of time on this section. You are much more likely to get other questions correct if you spend more time on them. Spending more time on an angle ranking question doesn't usually mean you'll have a better chance at answering it correctly.

## Hole Punching

[View the official instructions to the PAT on the ADA's website.](#)

Hole punching instructions: Page 38

[Start using DAT Bootcamp's Hole Punching Generator.](#)

A square piece of paper is folded multiple times and hole punched. You must unfold the paper and determine where the holes lie on the paper.

Draw a 4x4 grid on a piece of paper before you attempt to do these problems. Then, starting with the last fold, unfold the paper one step at a time. Anytime you see a hole punch in the paper, mark where it is located on the 4x4 grid. Continue to unfold the paper one step at a time until you have your solution on the grid, then match it up with one of the answer choices.

[Watch this video on the line of symmetry \(LOS\) method for the hole punching section](#)

## Cube Counting

[View the official instructions to the PAT on the ADA's website.](#)

Cube counting instructions: Page 43

[Watch this video to learn how to beat the cube counting section](#)

[Start using DAT Bootcamp's Cube Counting Generator.](#)

A set of ~15 cubes are presented and you must determine how many cubes have x amount of sides exposed. Usually one figure is presented for 3 questions.

To tackle these problems, make a 2-column chart shown below:

# Sides Exposed	# of Cubes
0	
1	
2	
3	
4	
5	

Then, go one-by-one to each cube and determine how many sides each cube has exposed. Make a tally each time you count the number of sides a cube has exposed on the right. The bottom of a cube is never counted as an exposed side. In addition, there are no floating cubes; every cube must be supported by another cube underneath them.

## Pattern Folding

[View the official instructions to the PAT on the ADA's website.](#)

Pattern folding instructions: Page 48

[Watch this video to learn how to beat the pattern folding section](#)

[Start using DAT Bootcamp's Pattern Folding Generator.](#)

A flat 2D image is shown and you have to fold the image into a 3D shape. It's important to note that you have to fold the image INTO the plane of the paper, NOT up and out of the plane of the paper. Again, the trick here is to focus on just one aspect of the shape. Try to match one of the shapes in the answer choices to the image in the question. Then, determine which piece would be connected to that piece. Don't try to fold the entire image in your head, just focus on figuring out the orientation of 2 pieces at a time and eliminate answer choices that don't work.

## Reading Comprehension

You'll be presented with three ~1500 word scientific passages with 16-17 questions per passage. You'll have a total of 50 questions and 60 minutes to complete this section.

Reading is a tough section to prepare for, and it's best to prepare for this section over a long period of time. The good news is that **if you are able to read this study schedule, you already have the skills to pass this section.** We'll be using DAT Bootcamp RC practice tests and outside articles.

The reading on the DAT is different from the SAT/ACT. It focuses more on detail-based questions rather than conceptual/application questions. Often, the question will refer to a specific part of the passage, and the answer can be read directly from the passage without any comprehension. It's more of a text-based scavenger hunt than a reading comprehension test.

Everyday, navigate to our reading comprehension classroom page ([www.datbootcamp.com/classroom/reading-comprehension](http://www.datbootcamp.com/classroom/reading-comprehension)) and pick out an article or two to read from Scientific American. The best way to improve your reading is by reading similar content that will be found on the exam. It doesn't take that long to read these passages. Try reading them before class gets started, while you wait in line at Starbucks, or even as you're eating lunch.

There are a lot of strategies to tackle reading comprehension. You'll have to practice and find out what works for you. For me, I read the entire passage and then answer the questions, very plain and simple. It worked best for me, but you may find another strategy works better for you.

Others use a method called search and destroy, where you don't read the passage and go straight to the questions. This is a true text-based scavenger hunt. Once you read the question, you quickly scan the passage and look for keywords that the question refers to. Then you read that specific part of the passage and answer the question. Questions that require some comprehension are marked and answered after all of the detail-based questions have been answered, because by then it's likely you read the entire passage. Students have plenty of success with search and destroy; I didn't like it because it put too much pressure on me when I couldn't find an answer. Try it out and see if it works for you.

Another method involves writing down all of the paragraph numbers on a sheet of paper and reading the entire passage. As you read each paragraph, you write a few keywords that describe the paragraph. For example, you could say "1. Origin of disease; 2. Mechanisms; 3. Causes; 4. Etc.". This way, you have something to refer to if you need help finding an answer in the passage. If a question asks "Which of the following describes the mechanism of the disease?", you can refer to your notes and see that paragraph 2 talks about mechanisms.

### **Quantitative Reasoning**

40 math questions are presented and must be answered in 45 minutes. The question difficulty goes up to algebra II and trigonometry, no calculus is required.

You'll have an on-screen calculator, however, the calculator may have a slight lag. We built our calculator in a similar fashion to help prepare you for this. Be sure to hit Clear plenty of times before you start a new calculation!

Since this is a time-intensive test, we will tackle this section in two runs. First, go through the exam and answer all of the easy questions. If you see a problem and you immediately know how to do it, solve it right there. If a problem looks difficult or you're not sure of how to solve it, guess, mark, and move on. Once you answer all the easy questions, move on to the marked questions. This way, you'll get all the easy points and at least put down an answer to all the questions.

We'll use Math Destroyer and DAT Bootcamp QR. Both of these are tougher than the real exam, but you'll thank us when you breeze through the real DAT QR section.

# Study Schedule (10 weeks)

### Introduction

Your study schedule is going to be broken up into 2 parts. The first part will concentrate on learning the materials, where you will go over all the concepts the DAT will cover and develop your own notes. You will still be assessing yourself at this stage to ensure you are learning from your content review. We will spend approximately 5 weeks reviewing the content.

The second part revolves around practice questions and reviewing materials (5 weeks). Your study day will consist of doing untimed sets of practice questions and reviewing your notes from your content review. About halfway through the second part you'll switch to timed practice to begin building your test-taking skills. At the very end of the second part you will switch to full-length practice tests to buildup your test endurance and stamina, as well as evaluate whether you are ready to take the DAT or if you need to postpone.

### Part 1: Learning the Material

This is arguably the most important stage of your DAT prep. How you prepare and review here will determine if the rest of your studying will be torturous and draining, or productive and successful. Let's get started!

[Click here to continue to the study schedule](#)