Ari’s 2017 Study Guide
For DAT Domination

Preface

Since the first publication of this study guide in 2013, thousands of students have worked through this schedule with great results, including some of the highest scores I’ve ever seen being achieved in 2016! The DAT Bootcamp team and I are proud to present to you, the newest generation of future dentists, the blueprint to an excellent DAT score. In this updated study guide, you’ll find the latest 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.

Here are some updates for the 2017 DAT. First, a quick look at the latest scope of the test in the 2017 DAT Guide does not mention geometry, trigonometry, or conversions in the Quantitative Reasoning section, and these sections have been replaced with “Quantitative Comparison”. In a previous DAT Newsletter, the ADA specified Quantitative Comparison “includes, but is not limited to, conversions; probability and statistics; geometry; and trigonometry”.

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. My recommendation is to study how we always have, and that is the path to the highest score. 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, Founder of DAT Bootcamp
Columbia University, College of Dental Medicine, Class of 2018
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


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/)
“When Should I Take the DAT?”

The majority of students study for the DAT while enrolled in classes, in the summer between junior and senior year. They **start studying around April** and **take the test in the summer**, around June through August. It's challenging, but it isn't anything harder than what you're going to do in dental school. If you're really rusty on your basic sciences, you can go through the first half of the study schedule on your own time, just to get a foundation back. Afterwards, then you can restart the study schedule, and move through everything a little faster since you've already studied it somewhat, and it'll be more of a review instead of learning the material for the first time. Also, the DAT is the same difficulty throughout the year; there is no advantage to taking it in during the summer or winter.

I'd recommend taking an easier course load during the semester if possible, and starting studying around late March, planning for a June test date. That way you start studying while in school, then finish up finals, and can dedicate some more time just to the DAT towards the end during the summer. You can also reschedule the test to later in July if needed without compromising your application. It's more important to take the DAT when you're ready rather than early.

“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 (50th 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. You can use DAT Bootcamp’s AA Calculator to help you calculate your estimated AA.

“What Do I Need to Score on the DAT?”

The average for acceptance is a 19-20 AA (~85th 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 (98th 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.

The point is 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 that 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.

**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.
Materials and Resources Overview

Total Cost of All Materials

★ DAT Bootcamp ($147 for all practice tests and tools)
www.DATBootcamp.com/classroom/upgrade

★ CourseSaver ($50/month)
www.coursesaver.com

★ DAT Genius ($95)
Partner website for extra DAT practice - use “bcgenius25” for additional 25% off

★ DAT Destroyer and Math Destroyer ($200 and only sold in print)
www.orgoman.com

★ Cliffs AP Biology 3rd 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: $502.25 (compare to $1400 for a test prep course)
Materials and Resources by Section

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

**Biology:**

**For Review -**

- Cliffs AP Biology 3rd Edition ([Free here](https://www.datbootcamp.com)). I've heard mixed reviews about the 4th and later editions and only recommend the 3rd edition for now.

- Feralis Biology Notes ([Free here](https://www.datbootcamp.com))

**For Practice -**

- [www.DATGenius.com](https://www.datbootcamp.com) Biology Practice Tests
- DAT Bootcamp Biology Practice Tests

**General and Organic Chemistry:**

**For Review -**

- [Mike's DAT Videos](https://www.datbootcamp.com) at DAT Bootcamp – work in progress, will be fully released May 2017

- [www.CourseSaver.com](https://www.datbootcamp.com) - This is the source I recommend for Chad’s videos.

**For Practice -**

- DAT Destroyer
- [www.DATGenius.com](https://www.datbootcamp.com) General and Organic Chemistry Practice Tests
- DAT Bootcamp General Chemistry Tests
- DAT Bootcamp Organic Chemistry Tests
Materials and Resources by Section

Perceptual Ability:

- DAT Bootcamp PAT Practice Tests, Question Generators, and Tutorials

- 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

- www.DATGenius.com 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):

For Review –


For Practice –

- Math Destroyer

- DAT Bootcamp Quantitative Reasoning Tests

- DAT Genius Quantitative Reasoning Tests
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 Genius is a good review; each biology question will walk you through and review an entire topic for effective studying. 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 Mike's Videos and/or Chad's videos to learn the material and create comprehensive notes (this is key). You can also use Mike's DAT Videos as they're released to review key concepts. 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. DAT Genius has a set of realistic DAT practice questions for this section too. 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. DAT Genius also has some good PAT explanations for this section.

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 these tutorials for an in-depth explanation:
DAT Bootcamp TFE Tutorial
DAT Genius TFE Tutorial and Video

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, and 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:

<table>
<thead>
<tr>
<th># Sides Exposed</th>
<th># of Cubes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

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. DAT Genius has a good set of RC practice tests if you need extra.

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) 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, and I've documented most of them on our RC Strategy Page. 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