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How I Passed My Final SOA Exam

Study Tips for Conquering FSA-Level Exams

By Michael McDermid

Editor's Note: This article originally appeared in the May 2011 issue of Actuary of the Future. It has been reprinted here with permission.

They say that by the time you figure out how to pass the fellowship-level exams, you're done. And how true that is! In this article, I am going to share a few exam tricks that I've picked up along the way with the hopes that they can help other actuaries prepare for the daunting journey to fellowship. And, with the need to constantly learn new concepts over your career (thank you CPD!), hopefully some of these tips will be useful for actuaries even after obtaining their FSA.

Overview

Like most actuaries, I was pretty good at math in high school and university. I was also quite successful with the preliminary actuarial exams, even though I found them challenging. But when I started in on the fellowship-level exams, something happened ... they were a lot harder to pass!

I've had the pleasure of working with some fantastic actuaries who have collectively given me some great advice on what I needed to do to pass the exams. Below is a list of tips that I have accumulated from other actuaries, students, and through my own trial and error.

It's the Thought that Counts (Convince Yourself You Will Pass)

With the sheer volume of material, and pass percentages set where the majority fail, inevitably you will have moments where you want to throw in the towel. When those moments come, my advice is to take a few minutes and remind yourself of all the hard work you have done and will continue to do. You have to be confident that you will pass the exam.

Remind yourself that everyone else had to go through the same syllabus as you and that you are putting in the effort to pass. Reflect back to the feelings you had upon passing the preliminary exams and think about how great it will feel when you pass the fellowship-level ones.

Committing months of your time to studying is not fun. Everyone has family/work commitments. And while it may feel like the days are flying by in the blink of an eye, these exams can be passed. In a recent presentation to a group of university students, a fellow AoF council member stressed the dedication required to pass these exams. There is no substitute for hard work, a positive attitude and a commitment to passing the exam.

Not Now, But Right Now! (Start Early)

People always ask how many hours they should put in to pass. While I've heard the rules of thumb (100 hours per hour of exam, three times as many home study hours as work study hours), I think the amount of time required is entirely a personal decision. I like to tell people you need to put in as many hours as it takes to pass the exams. (An extremely useful comment, I know!) Everyone is different, and every exam is different. You need to put in enough time to know the material cold come exam day.

The best advice, though, is to start early. You've probably heard this point before, but it really can't be overstated. You must start early.

I was once told by a former boss that in order to finish on time, you have to start on time. So, when determining when to start, work backwards. How many passes through the material do you want to do? (two, three, more?) How long will each pass take? How much time do you want to have at the end to dedicate to old exams? What about memorizing flashcards? And don't forget about family/ work commitments. (You've got to hate it when life gets in the way.) Figure out what you want to put in, and work backwards from the exam date.

It's also good to factor in a few breaks in your study schedule. Another former boss indicated that she knew she needed a week away from the books with about two months left to let herself recharge for the final push; otherwise, she would be burnt out come exam day. So, she factored this into her study schedule. Knowing what works best for you (and being honest with yourself) is critical when setting up your study schedule.

To Read or Not to Read, That is the Question (Passes Through the Material)

When it comes to the 2,500-ish pages of source material, a lot of people question whether they should read it all or not. My advice is, assuming you have read the above and started early, to quickly read the source material for your first pass. Don't try to memorize it or even understand it all, just give it a quick skim to get a sense of what's on the syllabus (and try not to get too depressed!). Another tip I have on the first pass is to identify where all the examples in the source material are located. When setting questions for an exam, what would be more appropriate (or easier) than taking an example from the book and changing a few numbers? Even though I've questioned it a few times, question writers are human too.

In recent years, technology (and entrepreneurial actuaries) has made it possible to have online seminars. Online seminars condense the entire syllabus into 40 or so

hours of podcast-style videos, breaking the syllabus into multiple sections. Online seminars give all the benefits of classroom style lectures with the added bonuses of being able to view them multiple times, on your own time, and from any location. For a second pass, I would definitely recommend going through an online seminar to get a flavor for how everything fits together. Again, you may not want to get into the nitty-gritty details of memorizing lists, but rather get a feel for where you will need to focus your time later.

(Note: I will not recommend any one particular guide; if you're not sure which one to get, and money is not an option, get them all! If money is an option, ask people to describe to you the various guides out there so you can make the best choice for yourself. Remember what worked well for someone else may not work well for you.)

For a third pass, I would recommend the tried-and-true study manual. At this point you want to commit to not only understanding the material, but also think about how the material could be tested. Going back and redoing all of the exercises from the source material would be a great way to cement the concepts through possible exam questions.

(Again, I won't recommend any particular manual. However, it could be an advantage to get a different company's manual vs. the seminar. This would give you a slightly different perspective and emphasis on the material.)

I would then recommend a fourth pass by condensing the study manual down to a manageable piece to memorize, but more on that later.

The Highlighter Trick

Okay, this is going to sound really stupid. In fact, when it was first described to me, the woman telling me about it started with "This is going to sound really stupid ... but it works!"

For the highlighter trick, the first step is to get as many different colored highlighters as possible. (and lots of them!) Next, when going through your study guide, use a different color to highlight different topics. For example, I used green for chapter titles, yellow for subtitles, blue for any list, purple for all formulas and pink for any other noteworthy points. And be consistent (i.e. don't change up the coloring mid way through the manual).

Why the highlighter trick works: It forces you to slow down. How often have you read something only to have to reread it a few minutes later because you weren't really reading it? (For example, that last sentence.) This material is complex enough that when reading through your study manual you have to take the time to actually read it and not just skim through it. This trick forces you to slow down, if only to grab a different color when highlighting.

It keeps you focused on what you're reading. By using different colors, you are always thinking about what you're reading. Is it a list, a formula, or just a bunch of titles? Furthermore, if I did get distracted (or more appropriately, when I got distracted), I could quickly get back to being engaged by looking for the chapter title (green), and

subtitle (yellow).

It's a great sense of accomplishment. Nothing is less satisfying than realizing it took three hours to read through 30 pages of a study guide and you have nothing else to show for it except a few notes in the margin. Not only will the pretty colors keep you engaged, but you'll actually feel like you've accomplished something with your time. To pass this exam, I needed to win a lot of little battles along the way.

When doing your second (third, fourth, ...) review, you can quickly grasp an overall view of the chapter in a few seconds. Is the chapter mostly blue (i.e. lists), or is there a lot of purple (formulas)? A chapter that was mostly yellow (subtitles) was one that I knew I could gloss over while one that was mostly pink (noteworthy points) was worth extra attention.

Now, the highlighter trick isn't for everyone. In discussing this with a coworker, he indicated that this trick would not have worked for him because he would have just cruised through the readings, highlighting the lists, definitions, formulas, etc., without actually reading them. The only way for him to "slow it down" and absorb the material was to rewrite the entire manual in his own notes. The takeaway here is to take your time and use what works for you to understand and absorb as much of the material as possible.

I definitely credit the highlighter trick to keeping me engaged through the months of preparing for this exam.

Flashcards

This is going to sound extremely blasphemous: I did not use flashcards when studying for this exam. (I feel like I'm on the A&E show "Intervention.") In past attempts, when using flashcards I found that I was memorizing the lists but not the questions. (Rarely would the exam question ask "What is the 10th flashcard from the blue section?") Also, I found I was focusing too much time on a lot of minor points and not on the high-level big picture or various cross references. It was hard for me to put it all together just memorizing the flashcards.

Now, there are some people who can memorize a stack of 500 flashcards and tell you every subpoint on each of them; I am not one of those people. So rather than study for this exam by trying to memorize an arm's length of flashcards, I needed an alternative solution: I made my own question sheets. I would write a generic question or theme on the top of a letter-sized sheet (much like you would have on the exam) and wrote out all lists, formulas and points related to that theme. I found this helpful as it not only forced me to write out all the lists, but it also forced me to cross-reference different pieces together.

Some people suggest dedicating the last three to four weeks of your study schedule to memorizing flashcards. By writing out and memorizing 10 sample questions a day, I had a database of over 200 sample questions to draw upon come exam day. Realizing you wrote out and memorized the answer to an exam question a few days before the exam is a huge pickup during the 15-minute read-through.

This exercise is also useful if you're not sure exactly what the question is asking. During the exam, I found myself thinking back to my own question sheets regarding which list or formula to use to answer the question. A final point, by organizing the various points onto a single sheet, it made for a very organized answer on the exam. I knew exactly how I wanted to answer a few of the questions. Making the answer as straightforward as possible shows the marker that you knew exactly what and how you wanted to answer the question.

Misery Loves Company (Study Groups)

For my last exam, there were four of us taking the same exam at my then employer. So, we decided to form a study group and met once a week to discuss certain topics related to the exam.

In a study group, you can assign a piece of a section to each member of the group and have that person lead the discussion: important takeaways, possible questions, old exam questions. A study group also allows you to work through the tough problems together, rather than spinning your wheels on your own.

Another thing that I got out of the study group was the chance to bounce ideas off of other people. Do you think this material is important? How do you think they could test it? I think of the material this way; how do you look at it? How does this paper tie into the other papers in the section, or the syllabus in general? Why do you think they included this paper in the syllabus?

Also, by joining a study group I was pushed to keep to my schedule. In past attempts, there were always excuses to postpone studying with the thought of "I'll make it up tomorrow." For a study group, other people were counting on me to be prepared and I was counting on them. If we were to meet the next day to discuss a particular section, I made sure that I was ready to discuss; no excuses.

Finally, you may find it helpful to recruit a few educated actuaries to aid your study group. A colleague of mine stressed that for her study group, having subject matter experts on hand was definitely beneficial for topics that the group couldn't quite figure out on their own or where they wanted a more in depth understanding. A lot of FSAs have a great deal of experience and knowledge that they can share and may be particularly good at explaining certain subjects. Breaking the topic down into simple terms or walking through examples can really help clarify things. In addition, just having these enhanced discussions often helps solidify things in your memory.

When joining a study group, I encourage people to be an active member; you get out what you put in. Don't just sit back and let others lead the group. Remember, your success on exam day is not inversely proportional to your study group mates'; in fact, the opposite is probably true.

I personally got a lot out of the study group and know that my fellow study mates did as well. In fact, this was the second time that I was part of a study group for an actuarial exam and I can say I am officially two for two!

History Repeats Itself (Old Exams)

Old exams are a great reference to help prepare you for exam day. However, when going through old exams, I didn't sit down and simply go through last year's exam, and then the exam from two years ago, and then the exam from three years ago,...

Instead, I went through the syllabus and came up with 13 different categories, and then read through all the old exams and bucketed the questions into the various categories. (For most of the smaller sections in the syllabus, I grouped all questions into the same category; for the larger ones, I split the questions into different categories.) Obviously, some questions can pertain to more than one category, so I assigned them accordingly.

Then when it was time for me to go through the old exam questions, rather than go through them in the order of the exams, I focused on all questions pertaining to each category separately. How have they asked questions from this category in the past? Is there any study note that gets more or less attention than the others for this category? Are there any discernable patterns in the questions? What's overdue to be asked?

This also gave me the opportunity to study how the exams had been constructed. For example, for my exam I noticed that in the past they tended to pick a particular category and asked a lot of questions about it and how it relates to other categories (i.e., one main topic with a lot of questions containing cross references to other topics). So, when I realized they had asked a few too many questions pertaining to a particular category in the morning session, rather than ignore it during my lunch review (thinking "Well, they've already asked a few questions on that."), I did the opposite and focused on it! Sure enough, there were a few more questions in the afternoon cross referencing that category.

Another key point I'd like to make about old exams is to study the sample answer. In past attempts, I was too focused on my answer and not the sample answer provided by the graders. There is definitely a lot to learn from the sample answers. For example, what is the difference between a 10-point answer and a three-point answer?

What is the difference between "list," "describe" and "explain"? How much detail are they expecting for a calculation-type question?

Finally, I caution you to not fall into the trap of trying to guess the exam and limiting your preparations to what you think will be tested. Just because a topic was asked last year doesn't mean it won't be asked this year. While it is reasonable to make rough guesses about what questions may appear on the exam, anything can happen. A similar type of question can repeat after one year, after two years, or never again.

Treating Every Day like Exam Day

Most of us have a certain time of day that we feel the most productive. For me, I'm a night owl; I do my best studying after most people are sound asleep! When studying, I would often be up at 2:00 (or 3:00, or 4:00) AM, and then sleep in until noon the next

day.

Unfortunately, the exam doesn't start at noon; it starts at 8:30 a.m. And factoring in travel time (and the need to be unbelievably early), I was getting up a lot earlier than I would like.

For the final week of studying, my advice is to treat everyday like it's the exam day. Get up at the same time, eat breakfast, get ready, and factor in travel time like you would on the day of the exam. For those of us who are night owls, the first few days will be rough, but it's better to have a rough morning five days before the exam, than on exam day.

Then, for that last week, start your three-hour "exam" (as you will on exam day) at 8:30 a.m. What I mean by that is sit down and have a study session for three hours straight; no distractions. When studying in past attempts, I was constantly getting up for one thing or another (can you say ADHD), and hadn't actually sat down for three hours straight until the day of the exam. After the three hours is up, treat yourself to a break (just like on exam day), but plan to come back to it for another three-hour session in the afternoon.

The reason I suggest this is that it helps to prepare for how physically exhausting writing these exams can be.

Altogether you are probably looking at a 12-hour day, with your emotions all over the map. You need to prepare for this so that come exam day you don't find yourself so exhausted following the morning session that you couldn't care less about the afternoon session!

Another great piece of advice I got related to the last week of studying was to work in an hour of exercise a day. Nothing too strenuous of course (walk around the neighborhood, swim at the local pool); just enough to get your blood pumping, head clear and work out some of the extra tension. If you're reading this and thinking, "There is no way I can take an hour off the day before my exam," you don't have to. Grab your iPod with some lists on it and just listen as you work out.

Finally, I would like to share some advice I got from my second year algebra professor on preparing for exams: "Study what you know; don't study what you don't know." What she meant by this was be sure to not overlook the easy material at the expense of the harder material when cramming for an exam. The questions on the exam are quite thorough across the entire syllabus. In past attempts, I was always trying to learn something new a few days before the exam, when perhaps my time would have been better spent review the material I was already comfortable with. The goal isn't to learn everything on the syllabus; it is to pass the exam.

Time is Not on Your Side, No It's Not (During the Exam)

A few tips on what to do during the fastest six hours of your life:

1. Come up with a strategy to use during the exam. A friend of mine would go through the exam and try to answer all of the calculation-type questions first

(it seems that usually half of the exam is calculation-type questions, while the other half is list/recommendation-type questions). This played to his strength of being extremely quick with the technical questions and gave him plenty of time to focus on the "wordy" questions.

2. My strategy was to go through the exam and quickly write down all high-level lists and formulas for all of the questions and then to go back and repetitively go through the exam. I would address the "easy" questions first and leave the "hard" questions till the end. Again, come up with a game plan that works for you. Use each of the 15-minute read throughs to your advantage by formalizing your plan for the next three hours.
3. Make it as easy as possible for the graders (and yourself). Bullet point answers, writing as big and legibly as possible, and showing all steps in your calculations are great pieces of advice to convince the grader you know what you're writing about. You want to make it as easy as possible for the grader to mark your paper.
4. They indicate that you are to start each new question on a different piece of paper. I prefer to start each subquestion on a fresh sheet as well. There is plenty of paper available-use it.
5. Avoid the dreaded zero by answering every question. For example, on my exam there was a question where I wasn't sure which of two lists they wanted. Rather than guess, I quickly jotted down the high points for both lists. Now, I didn't have time to get into all the subpoints for both and can guarantee that I wasn't going to score a 10 on that particular question, but I ensured myself that I got some points for it. While a "brain dump" is not ideal, if you are not sure what to put for a particular question, you may want to do the following: define any/all terms, list out all formulas, or describe certain components (e.g., products, regulations, methodologies) contained within the question.
6. Do not allow yourself to fall into the trap of spending too much time on any one question. On my last exam, there was a three-point question on controls which is a topic that I deal with everyday. Realizing that it was only worth three points, I stopped after spending the allotted nine minutes, even though I could have written a lot more. Now, in that nine minutes I was able to fill up three pieces of paper and I got all of the major points across, but needed to stop and move on to other questions.
7. Another example on my exam was for a particular question that I had gotten down to three equations with three unknowns to solve for a piece needed for the final answer. Now, I am a few too many years removed from first year linear algebra to quickly solve that question. Recognizing that the intent of the question probably wasn't calculating the inverse of a matrix, I quickly wrote: "Use linear algebra to solve for X. Plug X into formula at top to solve for Y. Ran out of time. Assume $X = 10$ ". I then used $X = 10$ to solve for the piece they were asking for. (I really wanted to write: "At this point, I would hand it over to the co-op student to solve," but I didn't know what sense of humor the marker would have.) I probably didn't earn full marks, but by saving the minute or so (or 5 or 10) to answer a less critical piece of the

question, I was able to move on to other questions to earn more points.

8. Remember you don't have to score a 10 on every question to pass. You don't even have to pass every question to get a passing score on the exam. The end goal is to pass the exam. My advice is to keep that in mind when studying for and writing the exam.

Conclusion

They say it's how you feel going into the exam, not coming out. Going in well prepared by having put in the time, confident that you know the material, and ready to peak is the best that you can do to be successful on exam day.

Please note that what worked for me may not work for you, and I encourage everyone to develop their own process for preparing for the exams. You may find it helpful to use different learning tools and methods: reading, watching videos, discussing with a group, doing problems and examples, writing old exams, putting together your own notes, quizzing others, talking with actuaries. Find out what works for you and do it.

Good luck and happy studying!

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