

Future Fellows



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How to Prepare for PCPA

by KATHLEEN SMOLAK, CANDIDATE REPRESENTATIVE

Exam preparation

The PCPA Exam differs from other exams. It is two hours long and focuses on concepts and understanding rather than complex calculations. Review the Content Outline, focus on source material, and read through the Success Criteria for the Project. Some candidates find using a study prep vendor helpful, but it is not required.

Project preparation: Before the project window

Candidates must pass the exam three weeks prior to the beginning of the project window. Specific dates can be found in the PCPA Content Outline. The project is offered four times per year.

Picking a language

The project must be completed in SAS, R, and Python. If you are not familiar with any of these, do some research and choose a language you think will be helpful for your career. For example, if you know the actuaries at your company use R, then pick R. If you work closely with data scientists who

UPCOMING EVENTS

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Honolulu, HI
November 8–11, 2026
- ▶ **Ratemaking, Product and Modeling Seminar**
Indianapolis, IN
March 15–17, 2027
- ▶ **2027 CAS Spring Meeting**
Chicago, IL
May 16–19, 2027

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use Python, then pick Python. Each programming language has its pros and cons, so consider this when choosing which language to use.

Model coding basics

Practice building a model before starting your project. There are many great resources online to help you learn to do this, including the CAS “Building a GLM from Start to Finish” course. The course is available at a discount through the end of 2026 with the discount code provided via email confirmation once you pass the PCPA Exam. This course walks you through building a model and explains what you should consider from an actuarial perspective. Download and review the provided script files.

[Coursera.org](https://www.coursera.org) also has courses on data analysis with Python/R that walk through the steps in the modeling process. YouTube also has numerous videos on coding concepts. If you know other actuaries or data scientists who code, ask them if they have any advice or recommended videos and materials.

Outline your project

By now, you should have an idea of what you need to do to build a model. Use a Jupyter notebook, Markdown, or comments in your code to outline the steps in your project. It may be helpful to include specific code snippets for easy reference while you are writing your code. Keep in mind that if you are using a notebook, you will need to convert it to a script file before submitting your code.

Additional CAS resources

The PCPA page on the CAS website has a [list of FAQs](#). Read through those to get an idea of what to expect when the project window starts. I highly recommend reading the PCPA Post Project Summary (found on the [CAS Post Exam](#)

[Summary webpage](#)) before you start your project so you can see some of the common errors from previous windows.

During the project window

Datasets and project instructions

When the project window opens, you will receive an email from the project portal. The email will provide a link to a project page containing all the information needed to complete and submit the project. Read the project instructions very carefully: There are specific guidelines about the file types and names for your final files. You will need to provide a final report, code file, and additional outputs from your code.

Model review

Frequently review your code to ensure it performs as intended. For example, compare your exploratory data analysis findings with your predictions by category — are your findings reasonable? Are your relativities as expected? These and similar considerations can be found in the CAS GLM course.

Final report review

It is important to ensure your report clearly explains the assumptions and results of your project. Ensure your report is within the 1,250 word limit and also ensure that any indication of your name or identity has been removed. The CAS GLM course has a section about what to consider when you are writing a final report.

Project submission

Plan to submit your project a day or two before the deadline, and do not wait until the last minute. Some company computers may encounter issues during file submission, so plan to submit early so that you can reach out for help if any issues occur. ●

How to Stand Out Without More Exams

by JASON RUTTEN

ONE OF THE MOST FREQUENT QUESTIONS ACTUARIAL

students, candidates, and analysts ask is “How many exams should I have?” Exams are certainly important for people looking for entry-level roles and advancing their careers. Passing them demonstrates rigorous analytical thinking, intellectual discipline, and a commitment to the profession that employers value. However, what many candidates fail to realize is that exams are only a small portion of the value you

bring to an organization. Many analysts stall professionally while waiting for the next exam pass to justify a career move. Entry-level candidates feel underqualified without enough exams on their transcript. That thinking hands control of your career path to a testing calendar and ignores an enormous number of professional skills that exams simply cannot measure. Exams prove you can learn, and everything else proves you can work. Here are four actionable ways to build visibility, credibility, and career momentum even without a credential.



#1. Go deeper on your technical tools

Most analysts use Excel, Python, R, or SQL at a surface level. They know enough to get the job done but not enough to become the person the team relies on. The analysts who stand out are not necessarily the ones with the most sophisticated models. They are the ones who made someone else's job easier. Automate a report that someone rebuilds manually every month. Build a macro that catches an error before it reaches a manager. Write a clean, reusable function that three people on your team end up borrowing.

Practical tip: Identify one workflow on your team that wastes time and fix it. You do not need permission to propose an improvement. You just need to show up with a working solution.

#2. Become a strong communicator

There is a well-worn stereotype that actuaries are great with numbers but struggle with people. This is not universally true, but it does mean that clear, confident communication is rarer in actuarial departments than it should be. That makes it more valuable. Written reports, verbal presentations to business partners, and the ability to simplify complexity without losing accuracy are skills that senior leaders actively notice. When an analyst can walk an underwriting VP through a reserve analysis and make it feel intuitive, the VP will invite that analyst back for the next cycle. This skill will help you even if you aren't briefing a VP just yet. At any level, being the person who can turn a complex analysis into three clear sentences in an email will not go unnoticed. The audience changes as you grow, but the skill is the same.

Practical tip: After your next analysis, write a paragraph summary for a nontechnical audience. Pretend you are explaining your findings to a smart, busy colleague who has never taken an actuarial exam. If you can do that well, you have demonstrated something no exam score communicates.

#3. Build relationships beyond your team

Actuarial visibility inside the department is necessary but not sufficient. The analysts who advance most quickly tend to be known and trusted by people in underwriting, finance, data science, claims, or product.

Cross-functional relationships matter for two reasons. First, they lead to stretch opportunities that can broaden your network and improve those skills that exams cannot. Second, they create sponsorship. It is incredibly valuable for your career path to have someone outside your chain of command who advocates for you when you are not in the room. An actuary who has built trust with product teams will be the first call when leadership needs to understand how a soft market is going to impact profitability.

Practical tip: Request one informal coffee chat per month with someone outside your immediate team. No agenda required. Just bring curiosity, genuine questions, and a willingness to understand how they see the business.

#4. Think and ask like a strategist

The difference between an analyst and a trusted advisor is often not the quality of their answers, but rather the quality of their questions. Asking sharp, insightful questions in meetings signals professional maturity beyond your title. It shows you understand not just the mechanics of what you are working on but the business context around it. Understanding the challenges facing an organization allows you to be the expert who effectively navigates risk. Instead of just helping management understand changing loss trends, you will be able to recommend the best rate level based on that new risk. Build the muscle in low-stakes settings before you use it in high-stakes ones. Nobody expects you to always challenge a VP early in your career, but they will remember the analyst who consistently asks the question everyone else was thinking.

Practical tip: Before each meeting, prepare at least one thoughtful question about the business, and not just the math. Consider something that connects your work to a broader strategic question your company is navigating. You do not have to ask it every time, but the habit of preparing it will change how you show up to meetings.

Passing exams is demanding. The time, money, and mental energy required are substantial, and the credential is genuinely worth it. But it should not be the only thing you are building. Although these skills won't immediately impact your salary scale the way an exam pass does, the long-term payoff is enormous. The analysts who advance fastest in this profession are the ones who combine technical credibility with soft skills and initiative that no exam can certify. You do not need to wait for your next pass notice to start building those skills. Pick one idea from this list, put it into practice this week, and you will start to stand out in your organization. ●

The Mental Side of the Actuarial Journey



by BRETT TARNOPOL, ACAS

IT IS EXAM RESULTS DAY, AND YOU ARE ANXIOUSLY

refreshing the CAS Portal, waiting for your result to finally appear. Next thing you know, the announcement hits your inbox and results are out. You take a deep breath, refresh the page one last time, and see your result.

Moments like these remind us that, no matter when we started our journey, every actuary has felt this same tension. Whether you took your first exam yesterday or 50 years ago does not matter. Every actuary has felt the drain of long study hours, the anxiety of sitting for each exam, and the stress of the process. The journey is arduous, and we should strive to talk more openly about what it takes from all of us.

My own journey is no exception. At one point, I received a failed result that completely gutted me. I tried to power through my next sitting, which happened to be a different exam, and studying for that sitting was rough. I realized the process had truly taken its toll on me. Fortunately, with the support of my company, I was able to take a year off from exams. It was an amazing decision. I came back stronger and happier, following up that demoralizing failed result with a rejuvenating passed result.

That experience taught me something essential about the exam process, something we do not talk about enough. I share my story not to highlight a failure, but to emphasize what I believe is a success. It was an acknowledgment of the

mental drain that comes with persevering through these exams and an effort to do something about it. We have all had similar moments, and we should use our shared experiences to talk more openly about the mental and emotional strain of the process. By doing so, we can build a stronger actuarial community, a community that supports each actuary through the challenges and makes us stronger because of it.

For candidates currently in the thick of it, these shared experiences can be a source of strength. Every credentialed actuary represents a story of perseverance. They have felt what you are feeling, and you should not hesitate to connect with those stories. You are not in the fight alone. We have all been there, and many of us are eager to help however we can. Utilize the community to the best of your ability.

Supporting candidates is not just an individual effort. It is something the entire actuarial community can embrace. That support can be as simple as offering consistent encouragement during the process or giving candidates time off from exams, as I was fortunate to receive.

Candidates should strive to be aware of how they are feeling and ask for the help or support they need. Do not be afraid to ask for help. You are surrounded by actuaries who are willing to support candidates however they can, because we have all been through it, too.

Lastly, do not be afraid of the exams. They lead to an incredibly rewarding achievement. ●

Research-Backed Study Strategies for Actuarial Exams

by SEBASTIAN WYMAN, ACAS

TO BE SUCCESSFUL ON CAS EXAMS, CANDIDATES

must retain material over months, retrieve it accurately under time pressure, and apply it flexibly to unfamiliar problems. Decades of cognitive psychology research offer clear guidance on how to study for these demands. In my former life as a teacher and during my own studying, I have found two sources particularly useful: the research synthesized by the Learning Scientists and the applied work of Sandra McGuire in *Teach Students How to Learn*. Both recommend a small number of strategies that reliably improve learning outcomes.

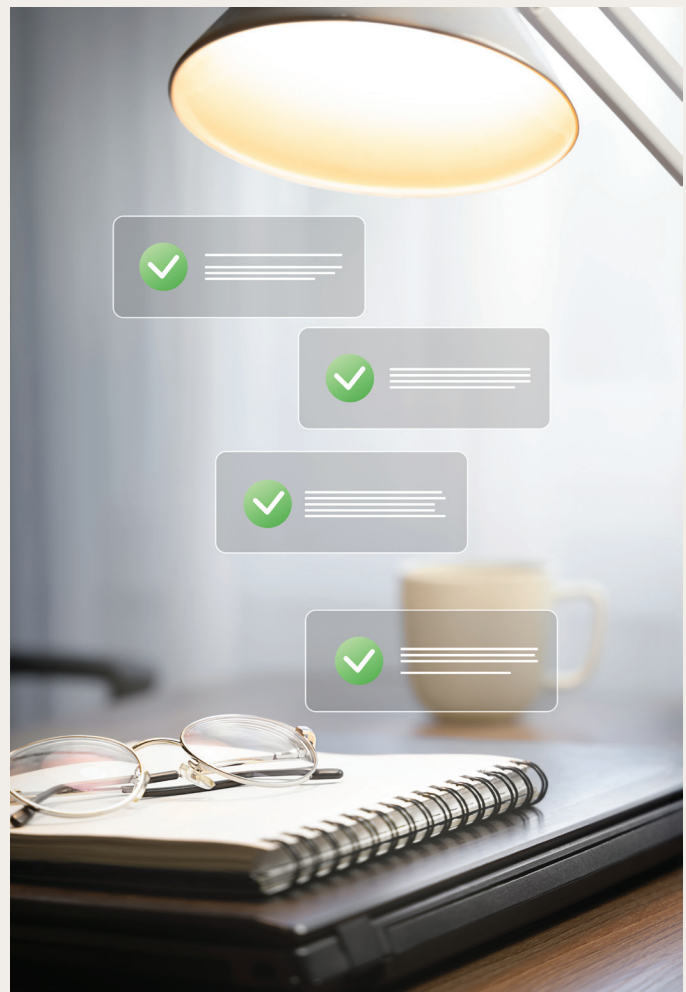
The Learning Scientists identify six evidence-based study strategies, ranked by strength of empirical support: **spaced practice**, **retrieval practice**, **elaboration**, **interleaving**, **concrete examples**, and **dual coding**. All six have empirical backing, but the weight and consistency of the evidence differ. Spaced practice and retrieval practice stand out as the most robust and consistently supported strategies for improving long-term retention. For actuarial candidates, these two should form the foundation of a study plan.

Spaced practice refers to distributing study over time rather than concentrating it into long sessions. Research shows that the same total number of study hours produces much better retention when those hours are spread out. Forgetting some knowledge between sessions is not a problem; it is a feature. When material is revisited after a delay, the brain must reconstruct it, which strengthens memory and improves durability.

Spaced practice should form the basis of an exam study plan. Effective spacing means starting preparation early, scheduling shorter study sessions evenly throughout the week, revisiting older topics deliberately, and resisting the temptation to abandon earlier material once it feels “done.” A typical week should include time to study new content as well as time for targeted review of material from prior weeks and months.

Retrieval practice is the second pillar of effective studying. It involves actively bringing information to mind without looking at notes, formulas, or solutions, followed by checking for accuracy. Practice problems, closed-book quizzes, flashcards used for recall rather than recognition, and writing out explanations from memory are all forms of retrieval practice.

The key point is that retrieval itself strengthens memory. Rereading notes or watching solution videos may feel



productive, but they primarily build familiarity, not recall. Actuarial exams reward recall and application under constraint. Candidates should therefore attempt problems without notes first, write formulas from memory before checking a sheet, and routinely test themselves on definitions, assumptions, and interpretations. Difficulty during retrieval is not a sign of inefficiency; it is evidence that learning is occurring.

Elaboration sits below spacing and retrieval in the evidence hierarchy but remains highly relevant for actuarial exams. Elaboration means explaining ideas in your own words, asking why a method works, when it applies, and how it connects to related concepts. It moves learning beyond memorization toward understanding.

In actuarial study, elaboration is especially important for conceptual questions and written responses. Explaining why a particular distributional assumption is appropriate, comparing reserving methods, or articulating the limitations of a model all require elaborative understanding.

Interleaving involves mixing related topics or problem types within a study session instead of practicing one type

From Content Outline to Study Plan: Getting Started on a New Exam

by MICHAEL ASTARITA, CANDIDATE REPRESENTATIVE

CONGRATULATIONS! YOU JUST SIGNED UP FOR A CAS actuarial exam!

Maybe this is the first exam of your actuarial journey. Or maybe you just passed one and rewarded yourself by immediately signing up for another. Either way, you are now at step one of a journey that will consume hundreds of hours of your time over the next few months. A new content outline, filled with material you have likely never seen before, is sitting somewhat menacingly in front of you.

Now what?

For me, the most important thing to remember when building an initial study plan is that it should provide structure but not be needlessly specific. You want a roadmap that lays out where you are going and roughly when you need

to get there. There is no reason to pretend you can map out exactly what you will be studying at midnight on a Tuesday three months from now.

Start with the exam date and work backward

My first step is always simple: Find the exam date, put it on my calendar, and work backward.

Ideally, I feel comfortable when I have somewhere around three to four months to prepare. From there, I generally divide my studying into three phases, with each phase laying the groundwork for the next.

The final phase is the easiest one to plan because I know where I want to end up. I like to give myself about five full weeks before the big day that are centered on practice problems and sample exams. At that point, I'd hope to have a pretty good grasp of the concepts, and the focus shifts toward applying them, identifying weak areas, and getting comfortable working under exam conditions.

Working backward again, the middle phase is usually the longest. I might spend roughly eight weeks taking a deeper dive into the material: working through the study manual and source material, watching videos, making and reviewing flashcards, and starting my first pass through practice problems. I try not to rely on the study manual alone because it may not capture every detail contained in the source readings.

The first phase is shorter—maybe the first three weeks of the process—and much higher level. My goal here is not mastery. I mostly want to understand what is on the exam. I will go through summaries, introductory material, and preliminary flashcards, usually without worrying much about practice problems yet.

You want a roadmap that lays out where you are going and roughly when you need to get there. There is no reason to pretend you can map out exactly what you will be studying at midnight on a Tuesday three months from now.

Going through the content outline multiple times also helps me reinforce my grasp of the material. Revisiting each section at increasing levels of depth keeps earlier material fresh, instead of reaching the end and realizing I've already forgotten what I studied at the beginning.

Last, within those three or four months, I look at my calendar as a whole. Are there going to be busy weeks at work? Vacations? Trips? Holidays? Other obligations that I already know will cut into study time? If I know I have something



significant coming up, I will build some buffer into the appropriate phase.

In general, a good rule of thumb is to always leave yourself some buffer. Something will come up.

Understand what you are studying

Before getting too deep into the material, spend some time understanding the content outline itself.

I look at the domain weights, but I also look at how much material sits behind each section. How long is that portion of the study manual? How many source readings are there? Is the section mostly conceptual, or is it heavily formula- and problem-based?

Knowing this helps determine how much time I initially allocate to each section during my first two phases. A heavily weighted section with a large amount of source material probably deserves more time than a smaller section with a handful of readings.

This is also when I familiarize myself with whatever study materials I am using. How is the manual organized? Are there separate high-level summaries? Videos? Flashcards? Formula sheets? How are the practice problems categorized?

You do not need to understand the content yet. You just want to understand the landscape.

Set weekly targets, not a perfect daily schedule

Early in the process, I prefer weekly goals over rigid daily schedules. Rather

than deciding exactly how much I need to study every single day, I find it much more practical to aim for a target of 10 or 12 hours over the course of the week. I can then fit those hours around whatever else is happening.

I also tend to start with lower weekly hour targets and gradually increase them as the exam date gets closer. There is usually no reason to study at maximum intensity in week 1 if the exam is four months away. I find that studying is a little like a muscle: you need to work your way up to the mad dash toward the finish line. If you start too hard, you risk burning yourself out long before you get there.

Work gets busy. Plans come up. Some days you are productive, and some days you are not. Giving yourself flexibility makes the plan much easier to sustain.

Final thoughts

The purpose of an initial study plan is not to perfectly predict the next several months. It is to give yourself direction, establish realistic milestones, and hold yourself accountable as you work toward passing the exam.

Build enough structure that you know where you are going, but not so much that the schedule becomes unrealistic the moment life gets in the way. Know roughly when you want to finish each phase, understand how the content outline fits within those phases, and leave yourself some room for things to go wrong.

Your initial schedule will almost certainly change. But remember, that does not mean the plan failed. It just means it did what it was supposed to do: give you a place to start. ●

THE CANDIDATE ADVOCATE WORKING GROUP MISSION

The Candidate Advocate Working Group (CAWG) focuses on issues of importance to candidates who are pursuing CAS designations. It serves as a direct point of contact for candidates to engage with the CAS and admissions working groups by sharing their thoughts and feedback. The CAWG also supports candidates' career advancement by advising candidates of resources available to them. The working group utilizes various communications tools, such as the quarterly *Future Fellows* newsletter, to engage candidates and provide information on topics of importance. Candidates may contact the Candidate Advocate Working Group at CAWG@casact.org.

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repeatedly in isolation. While blocked practice can inflate short-term performance, interleaving improves the ability to choose the correct method when problems are not labeled. Interleaving often feels harder and can temporarily lower accuracy, but it improves performance on cumulative exams.

For actuarial candidates, the practical implication is straightforward. A study plan built around early start dates, repeated spaced review, frequent retrieval, deliberate explanation, and mixed practice is far more likely to produce exam-day readiness than one centered on rereading manuals or watching solutions. The strategies are not novel, but the evidence behind them is strong and consistent.

Further detail, examples, and student-focused guidance can be found at learningscientists.org (including detail on **concrete examples** and **dual coding**) and in Saundra McGuire's *Teach Students How to Learn*. Both sources reinforce the same conclusion: changing how you study matters more than increasing how long you study, especially for high-stakes, cumulative exams like those of the CAS.

An example study plan

One way to operationalize these strategies is to commit to a long, steady preparation window rather than an intense

final push. A representative approach is to begin roughly four months before the exam and study about four hours per day, split into shorter sessions—for example, one hour before work, one before lunch, one after lunch, and one hour after work. This structure naturally supports spacing and reduces fatigue.

During the first one to two months, the primary goal is broad coverage with retention. Source material, study manuals, and videos should be broken into manageable segments and completed evenly across this period. Flashcards and practice problems should begin almost immediately rather than being postponed until the syllabus is complete. Using a digital flashcard system, such as Anki, or the spaced-repetition tools included with many actuarial prep platforms helps automate spaced practice and retrieval practice and ensures older material continues to resurface.

Practice problems should not be worked in large, topic-specific batches. Once a topic has been studied, its problems should be mixed with problems from earlier material. This approach supports both retrieval practice and interleaving, forcing continual recall and method selection and more closely matching the cognitive demands of exam day. ●