CIVIL ENGINEERING ACADEMY

CIVIL PE EXAM

START-UP GUIDE



YOUR QUICK START GUIDE TO ACE THE CIVIL ENGINEERING PE EXAM

ISAAC OAKESON, PE • CIVILENGINEERINGACADEMY.COM

Introduction:

The civil PE exam is no joke. When I passed the civil PE exam in the spring of 2012, it was such a relief to reach this major milestone in my life - and soon you will too!

I wish I could say that I passed the first time, but I didn't. I was a repeat taker. The stats on a repeat taker are low, so I know how you're feeling if you're in that spot. Let's makes sure you get prepared for this study marathon the right way.

If you are a first-timer, welcome! You need to get started on the right foot, too.

Passing the PE will be a major boost to your self-esteem and will launch you professionally into position for a very successful and fulfilling career. This exam is a must for any civil engineer!

My goal is to present you with a quick guide on getting started on the PE exam so you'll be ahead of the curve right from the start.

I'm excited to help you on this journey. Don't hesitate to reach out to me with questions or anything else related to this exam. I can be reached at isaac@civilengineeringacademy.com. Thanks!

Good luck with your studies,

Isaac Oakeson



Hi, I'm Isaac!

Isaac Oakeson, PE
civilengineeringacademy.com

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Ready, Set, Go!

☐ Pre-requisites, Sign up and register for the exam

1. Make sure you meet the pre-requisites for taking the PE exam by locating your individual (or where you are taking the test) state's engineering board or division of professional licensing (DOPL). Most states require 4 years of work experience under a PE, but some states are decoupling the experience requirement from actually taking the exam (Arizona, California, etc.), so you might be able to take it earlier than you thought.

2. Register with your state. You have to meet the prerequisites before you can register with your state's licensing board. You have to do this first before registering for the exam on the ncees.org website.

3. Jump on over to ncees.org and register for the exam. You have to commit to a date and your depth section of choice (construction, water resources, structural, transportation, geotechnical). Once you have done these steps, you're ONE GIANT STEP ahead on your commitment to becoming a PE!

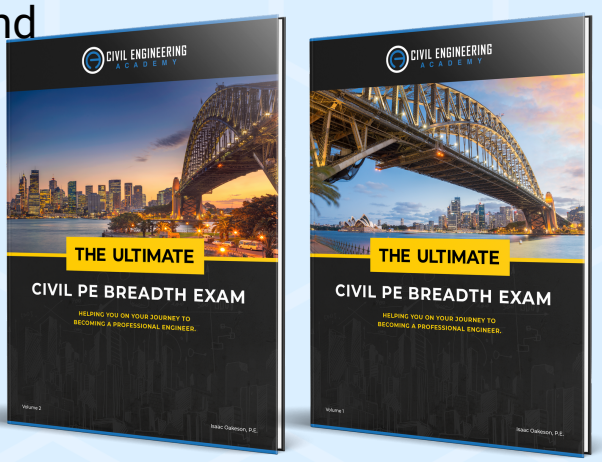
Warning!! Make sure you completely understand the deadlines you are up against. If your goal is to take the PE on the next offering make you don't want to miss your registration date or any state requirements to take it - you'll end up having to wait another 6 months! Not cool. :(

Must Have Materials to Get

☐ **Gather all of your books, tabs, materials**

1. You must have excellent reference manuals, practice problems, and practice exams to be prepared for the PE. Below, I've included my recommendations for the best resources for your PE exam study prep. (A more thorough list can be found at civilengineeringacademy.com)

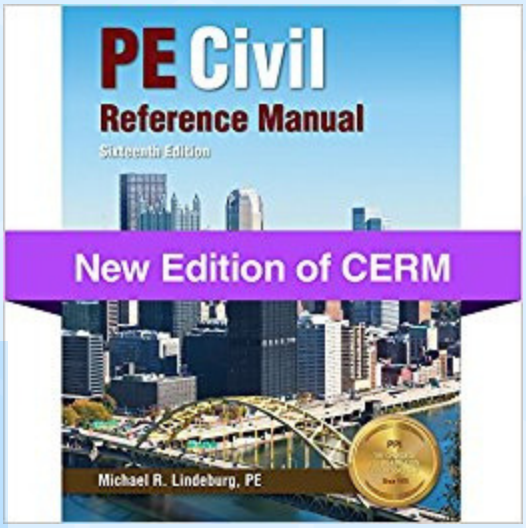
a. We will kick off the must-have materials with our very own exams. Our **Ultimate Series** of exams covers both the breadth and depth sections. We've built two complete 40 question and solution breadth exams. We also have depth exams of your choice depending on your subject. Each exam is similar to the actual exam and follows the specifications from NCEES. Go grab a copy at civilengineeringacademy.com. We think you'll love them!





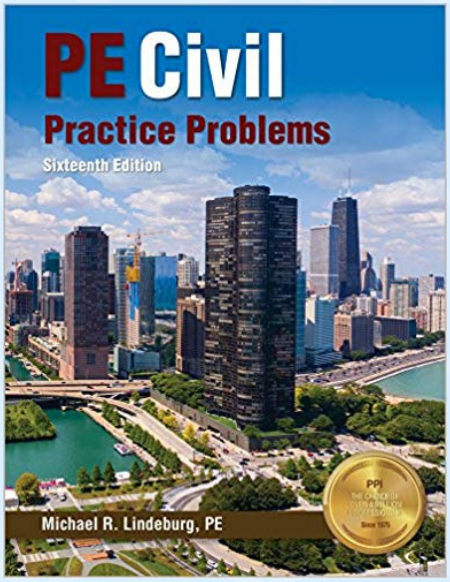
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b. **PE Civil Reference Manual**, Lindeburg: This is the bible when it comes to studying for the PE exam. You'll tab this up, work problems, and bring it into the exam with you. It'll work for both the AM and PM.

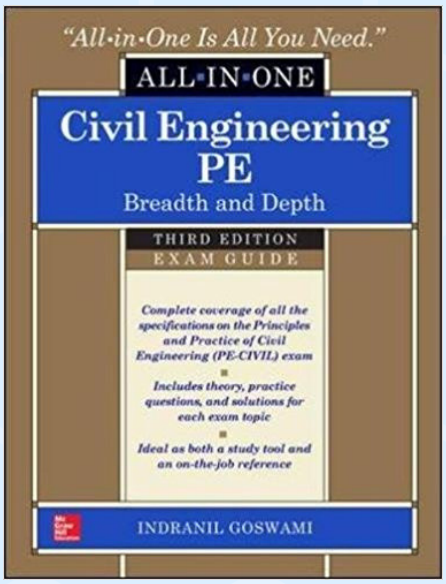


Use our discount code of CIVAC at civilengineeringacademy.com/ppi to get 15% off of your books (full disclosure - we are an affiliate with PPI).

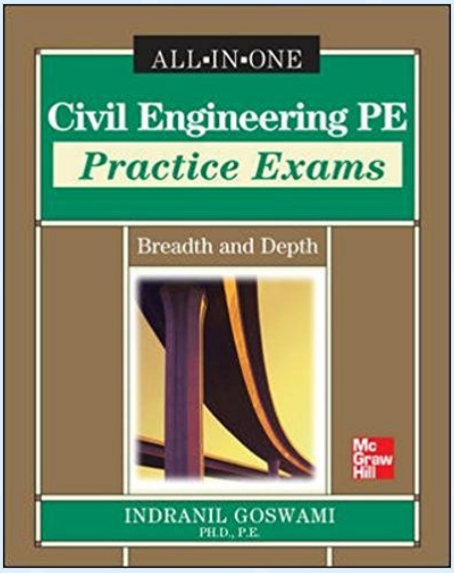
We also recommend getting the associated **PE Civil Practice Problems** book as well. The problems are harder than the real exam but they will launch you into productive study prep, and train you well for the real thing.



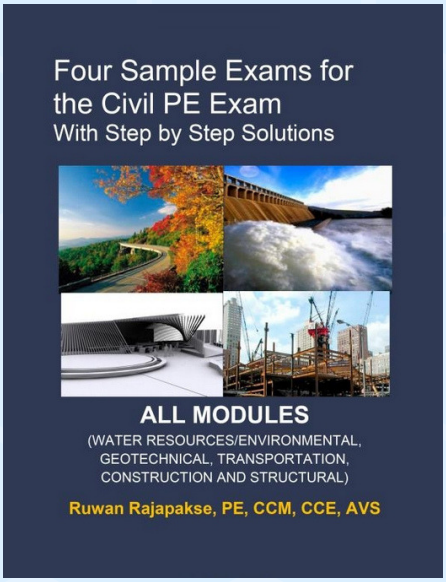
c. **Civil Engineering All-In-One PE Exam Guide, Indranil Goswami:** This book can fill in the holes where the CERM might be lacking. I personally found this book helpful in spots on my depth exam because it goes into a little more detail on specific topics, like seismic.



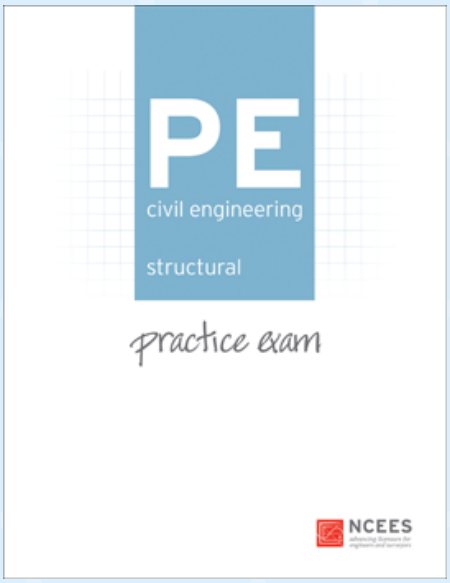
I also recommend grabbing a copy of his associated exam book, **All-In-One Practice Exams** as they are more in line with the real exam and you get two breadth exams and a depth exam as part of it!



d. **Four Sample Exams for the Civil PE Exam, Ruwan Rajapaske:** This book can fill in the holes where the CERM might be lacking. I personally found this book helpful in spots on the depth exam because it goes into a little more detail on specific topics, like seismic.



e. You can't take this exam without getting an exam right from the source. The NCEES testing agency produces their own exams and you should get one for your particular depth exam. It's a must.



Practice Exam Tip!

Take a lot of timed practice exams. Not only does this allow you to work a lot of problems and sharpen your technical skills but it also (perhaps more importantly) allows you to hone in on the best timing strategy. Managing your 4 hours for your breadth and depth exam is a huge part of succeeding.

f. **Book Tabs:** Grab some tabs so you can mark up your CERM and any other books you want to quickly reference.

g. **Depth Books:** I always recommend bringing in one or two text books related to your depth section. When theory problems come up, be ready to flip to the index and find the answer you need. If you need additional help, head to civilengineeringacademy.com and check out our resources for your particular depth section. You'll also need standards related to your exam. Obviously structural depth takers have the most standards.

h. **Tote or Suitcase:** If you can't fit all of your resources into a backpack, then maybe a tote will help you. You can also use a suitcase to bring things in, although it might look like you're about to get on a plane and take off :).

Approved Calculators

Get an approved calculator

1. This is your weapon of choice when it comes to taking the exam. Grabbing an approved calculator and using it when studying is something you have to do to become familiar with its functions BEFORE the exam.

My personal recommendation is to *get a calculator with solar functionality* because if/when the batteries go out, you know you won't be stranded. Here are the approved calculators.

Casio: All fx-115 and fx-991 models (Any Casio calculator must have “fx-115” or “fx-991” in its model name.)

Hewlett Packard: The HP 33s and HP 35s models, but no others

Texas Instruments: All TI-30X and TI-36X models (Any Texas Instruments calculator must have “TI-30X” or “TI-36X” in its model name.)



hp 33s

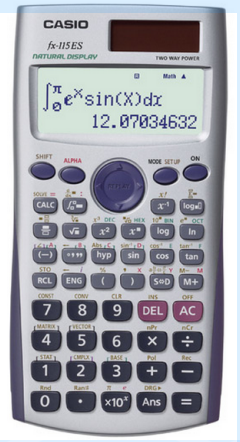


TI-30IIS

*I used this one!



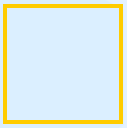
TI-36X



fx-115ES

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Study Schedule and Tips



Build a schedule that works for you

1. When you first start studying, you'll be overwhelmed by all of the material you have. Don't let this deter you. The secret is to build out a schedule and start working problems. Don't focus so much on the theory - jump right into problem-solving.

2. To build out a schedule, look at how many weeks you have until the exam. Look at the major topics in the NCEES specifications as well as the topics found in the Civil Engineering Practice Problems (CEPP) book from PPI. Then do something like this:

Week 1: Open Channel Flow, Chapters 15-18 (I made these up)
Week 2: Closed Conduit, Chapters 19-21
Week 3: Geometrics (vertical and horizontal curves), Ch 24-25
Week 4: Etc.

By building out a schedule you will hold yourself accountable to hit every single exam topic. For your depth study, make sure to do ALL the problems in the CEPP book for your particular subject. For example, if you're studying transportation, add week 4, 5, and 6 as transportation topics in order to master them.

3. **You need 3 to 4 months to study for the PE exam.** If you are past the 3-month mark then register for the next available exam. You also need to put in about 15-20 hours a week so find any fringe time you can to study for this. Many study at work, during lunch, etc.

Review Courses and Forums

Consider a review course and join a forum

1. Sometimes you need more than a stack of books to get your going. You need a guide that has been there and done that--someone to help you navigate the exam and give you what you need to pass the PE. If this is you, consider taking a review course. I'll highlight a few but first, let's look at pass rates right from the NCEES so you know what to compare these to. The NCEES results don't vary too much from year to year but here are the results from April 2018 - in my own opinion these were a little low. Typically first-time takers are around 68%:

Exam	First Time Taker	Repeat Taker
Civil Construction	58%	28%
Civil Geotechnical	61%	28%
Civil Structural	59%	29%
Civil Transportation	64%	38%
Civil Water Resources	71%	44%

Review Courses and Forums

As you can see, **the best chance to pass is on your first try** so make sure to give it your all as a first-time test taker. **A review course will make the biggest difference in your preparation for the PE;** it will give you the best chance at passing the first time. My recommendations for the best review courses are on the next page.

*Don't be discouraged by the repeat taker numbers. As long as you keep plugging away at it you'll get it. It's a marathon and not a sprint. **I'm a repeat taker myself!**

Review Courses and Forums

a. **The Ultimate Civil PE Review Course** - Our very own course that includes a customizable study schedule -- The Ultimate Homework Planner, 10-course modules that cover everything from the NCEES specifications, and over 150+ video practice problems with references right out of the CERM. If you need a great **on-demand** course, this is the one.

Check it out at **civilpereviewcourse.com**

b. **PPI2PASS** - PPI is the giant elephant in the room with PE material and for good reason. They are the leader. You can find a course on just about anything you need. Use our affiliate link of **civilengineeringacademy.com/ppi** to get a great deal on a course.

c. **Engineering Education and Training (EET)** - These guys are relatively new to the playing field but have come highly recommended. They offer all kinds of courses and offer their own material as well. Worth checking out.

Review Courses and Forums

2. Each PE review course varies in *price, length, included material* and more. You'll have to do your homework and make the call. Courses can be costly, so do your research. There are even more courses if you search for them (ASCE, School of PE, etc.). We highly recommend ours, though! :)

3. **Join a forum or group**. There are quite a few engineering forums out there that are worth joining:

a. Engineering Boards - engineerboards.com has a large engineering forum, and you'll find stuff about the PE in there.

b. Reddit - You'll find all kinds of threads on the PE and civil engineering. If you aren't a user yet, you should be.

c. Facebook - Facebook groups are tremendously helpful. We started a free one you can join right now at **ceacommunity.com**. It's your one-stop-shop for all things civil engineering–career advice, PE exam prep Q & A, first dibs on discounts, and MORE.

Test Day Review Checklist

☐ **Go over your final checklist the week of the exam**

1. The week of the exam you'll want to double check some things before you actually get to the testing center. You can do this at any time, but just make sure you do it.

a. The test is open book so you can bring anything you want as long as it is bound. Bind **any loose leaf material,** so you can take it with you! This can include notes, exams - really anything!

b. Please, please, please, **don't forget your calculator**. Also, make sure the batteries are good or change them before the exam. Another thought might be to bring in a backup one just in case or get solar one so you don't run out of juice!

c. **You can bring snacks in a clear bag.** You might be too engrossed in the exam to even think about snacking, but if it's your thing to chomp on a Starburst, bring it!

Test Day Review Checklist

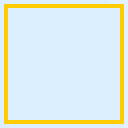
d. Most examinees bring boxes of books or suitcases, and some even bring books in on a dolly. Figure out what resources have been most helpful to you in your study prep because there will be no time to dig through all of that information during the exam **I recommend bringing all of your reference manuals, your practice exams, and one or two textbooks that can really help on your depth section**.

You'll also need to bring any standards recommended. **I would highly recommend you bring books you are familiar with** as digging through unfamiliar books will waste more time that you can afford.

e. **Make sure you know where you are going and where to park**. Plan ahead and be prepared for paid parking or anything else. You don't want to be late to this party!

f. Get lunch. Find a place at halftime or bring your own.

Last Second Tips



Relax, breathe, read the problem.

A couple of last-second tips before the exam:

1. You are going to want to rush through it **but don't.** Your adrenaline will be pumping and you'll want to plow through the problems, but please make sure to read over the problems carefully and make sure you didn't miss anything.

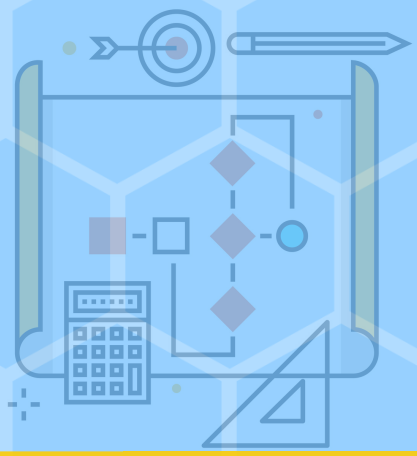
2. If you skip a problem because it looks lengthy or difficult, just put a little mark on your sheet to flag it. That way you can quickly come back to it when you are done.

3. If you have to guess, guess wisely. Try to reason out an answer. If you can eliminate two answers, you've just improved your odds of guessing right by 50%.

4. After the exam, your mind will be swimming with problems. Try to relax and take time to decompress. It's a long day.

5. After you get your passing results, celebrate like crazy :)

6. If you happen to fail, get right back on the horse and take this exam again. Think of the knowledge you just gained by taking it. You know the look, feel and flavor of the problems; so stick with it and prepare again for the very next exam. Don't skip one. It will set you back.



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START-UP GUIDE



This guide was built to help you start studying for the civil PE exam with the right mindset, the right tools, and the right support. If you want to chat or give me feedback on this guide or any of our other resources, please let me know at isaac@civilengineeringacademy.com



