

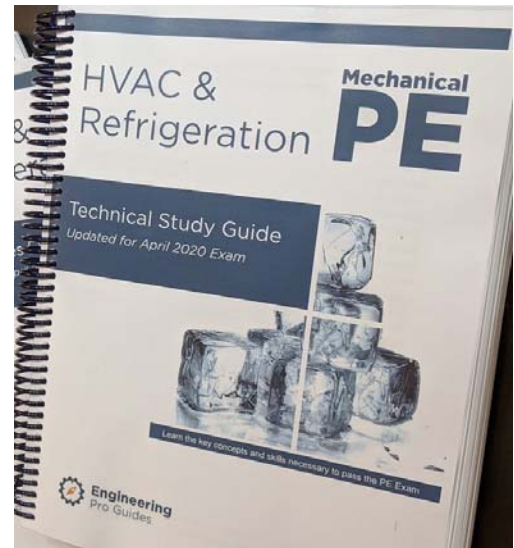
WELCOME TO THE ENGINEERING PRO GUIDES HVAC PE COURSE

This document will explain how the course works and our recommendations on how to use the course to pass the PE exam. The course uses multiple teaching methods to enforce your understanding of the necessary key concepts and skills.

STEP 1 - READ TEXTBOOK & TAKE NOTES

You will receive your hard copy textbook in the mail. Shipping is included in your course cost. You will also receive an electronic copy (PDF) of the textbook as well. Please follow the schedule and read the appropriate chapters in the textbook.

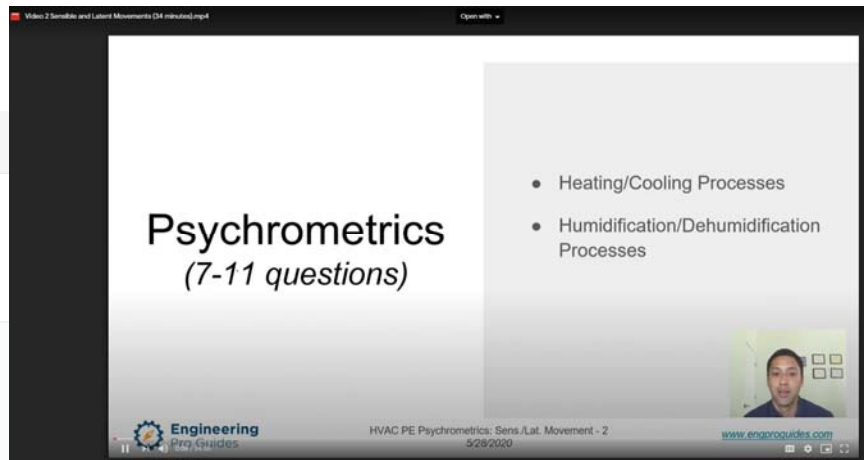
(Included in all courses)



STEP 2 - WATCH VIDEOS & TAKE NOTES

Next, watch the on-demand videos. The on-demand videos go over the key concepts and skills that you need to know for the PE exam. These videos are shorter and specific to each concept or skill. There are also videos that show you how to complete the common exam problems.

Step 2: Watch Lecture Videos	
Psychrometric Chart (28 Minutes)	Video 1
Sensible/Latent Movement (34 Minutes)	Video 2



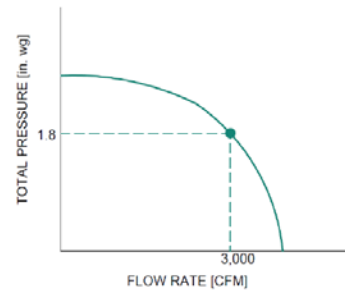
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STEP 3 - WORK PRACTICE PROBLEMS IN TEXTBOOK

The practice problems in the hard copy textbook (technical study guide) are on the easy to medium level of difficulty. Please complete steps 1 through 3 before the class problem solving session. *(Included in all courses)*

14.3 PROBLEM 2 – FANS

Background: A fan has been selected at the design point shown on the below fan curve. What is the minimum number of fans required to be placed in series, to achieve a flow rate of 3,000 CFM at a pressure of 4.0 in. wg?



STEP 4 - ATTEND CLASS PROBLEM SOLVING SESSION

I will take you through sample practice problems. This session will be live for the 16 and 8 week courses. You can ask questions live and if you miss a session, the session will be recorded and will be uploaded the next day. *(Included in 16-week & 8-week courses)*

Practice Problem 1

A 1/8" glass window with an aluminum frame with a k-factor of 10 Btu-in/h-ft²-F. What is the U-factor of the section of the window that consists of 1 layer of window and 2 layers of aluminum? What is the R-value of the entire window, assume the frame has an area of 2 ft² and the inner window has an area of 16 ft².

Handwritten notes: 1" ALUM., 1" ALUMINIUM, 1/8" WINDOW

Handwritten diagram: A cross-section of a window assembly showing a central 1/8" window pane flanked by two 1" aluminum layers.

Handwritten equation: $U = \frac{k}{t} = \frac{10 \text{ Btu-in/h-ft}^2\text{-F}}{1 \text{ in}}$

Handwritten thermal circuit: A series of thermal resistances: 10 Btu/h-ft²-F, 1.04 Btu/h-ft²-F, and 10 Btu/h-ft²-F.

Handwritten calculation: $R_{\text{total}} = \frac{1}{10} + \frac{1}{1.04} + \frac{1}{10}$

Justin Kauwale

HVAC PE Heat Transfer & Energy/Mass Balance - 39
2/11/2020

www.engproguides.com

STEP 5 - COMPLETE PRACTICE EXAMS

Once you have completed steps 1 through 4, you should now be ready to take a practice exam. There are at least two practice exams for each section. When you take the practice exam, please feel free to take as much time as possible. The practice exams are

Question 3 - 300 CFM of air, supplied at 65 F DB, 80% RH is used to cool the following loads. What will be the final condition of the air in the space? 1 point

The space was designed for a space condition of 75 F DB, 50% RH. Assume sea level. Sensible Heat Load: 8,000 Btu/h; Latent Heat Load: 2,000 Btu/h *

- (a) 85 F DB, 70% RH
- (b) 90 F DB, 50% RH
- (c) 75 F DB, 50% RH
- (d) 90 F DB, 71 F WB

another teaching method to challenge you. Also feel free to use any of your resources, EXCEPT the solutions. The solutions will be provided to you after you complete the exam. The exam is given online, there is no hard copy given. In our experience, the people that seem to struggle the most with the PE exam, all seem to have one thing in common. They tend to look at the solutions before challenging themselves to solve a practice exam problem. Don't be afraid to spend 30 minutes solving a single problem. The research you do to solve the problem will be very beneficial in the long run. *(Included in all courses)*

STEP 6 - REVIEW & REPEAT

After your practice exams, you may want to revisit the completed section. You should compare your score on the practice exams with those that previously took the class. If you are performing at the median, then you should be on track to pass the exam. If you are scoring below, then you may need to revisit the section. *(Included in all courses)*

STEP 7 - FINAL EXAM

Once you have completed Steps 1 through 6 for all of the sections, then you can gauge where you stand with the final exam. The final exam has scores from past test takers, so you can compare yourselves to those people and see your level of preparedness. *(Included in all courses)*

Problem 2 (Final Exam Q42) - Thermodynamics: A compressor has an isentropic efficiency of 85%. It is used to compress R 134a refrigerant from 50 PSIA to 150 PSIA. What is the resulting enthalpy of the refrigerant at the outlet of the compressor? Assume the refrigerant enters the compressor as a saturated vapor (no superheat). *

- (A) 92 Btu/lb
- (B) 109 Btu/lb
- (C) 121 Btu/lb
- (D) 125 Btu/lb

STEP 8 – READ REVIEWS

Survey Link: <https://www.engproguides.com/hvac-pe-exam-survey.html>

Read past reviews and recommendations. Lastly, please read through the reviews and recommendations of the past test takers.

The survey shows who passed and what they did to pass. It shows you what they recommend you do and what they wished they studied more. *(Included in all courses)*

What do you wish you practiced or studied more?

5 responses

Thermodynamics topic. The basic processes and their formulas.

I wish i practiced combustion, hhv, excess air more.

I wish I had studied combustion processes, orifices, and duct design more.

Boiler concepts. I would've learned more about boiler efficiency and calculating $Q=HHV*VFR$. Also, head pressure!!!! Discharge pressure, Suction pressure and NHSPA and NHSPR. I would've liked a better understanding what things are on the suction side and what things are considered on the discharge side.

COMPARE THE COURSES

	16-Week Course	8-Week Course	On-Demand Course
Cost	\$950	\$595	\$750
Access Time	6 months	2 months	6 months
Free Retake?	Yes*	No**	Yes*
Hard copy Class Textbook, with Shipping?	Yes	Yes	Yes
On-Demand Videos	36 hours	36 hours	36 hours
Live/Recorded Classes	32 hours (160 problems solved together in class)	16 hours (80 problems solved together in class)	Access to 160 class problems only (PDF)
Technical Study Guide (PDF)	Yes (100+ problems)	Yes (100+ problems)	Yes (100+ problems)
Full Exam (PDF)	Yes (90+ problems)	Yes (90+ problems)	Yes (90+ problems)
Final Exam (PDF)	Yes (80 problems)	Yes (80 problems)	Yes (80 problems)
References Exam (PDF)	Yes (40+ problems)	Yes (40+ problems)	Yes (40+ problems)
Ask the Author Questions?	Yes	Yes	Yes
Class Forum?	Yes	Yes	Yes
Practice Exam Problems from Live Class	Yes, PDF provided. (160 problems)	Yes, PDF provided. (160 problems)	Yes, PDF provided. (160 problems)

* In order to qualify for the free re-take, please provide a diagnostic report. We want to make sure that you are actually taking the exam. A diagnostic report is provided by NCEES if you take the exam and do not pass.

** You can upgrade to the 16-week course for the free re-take and continued access to the live classes AND the on-demand portion. You can also upgrade to the on-demand course for free re-take and continued access to ONLY the on-demand portion.