



CERTIFICATION STUDY GUIDE

CERTIFIED HVAC DESIGNER (CHD)



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INTRODUCTION

ASHRAE is an international membership society committed to the advancement of the arts and sciences of heating, ventilation, air-conditioning, and refrigeration to serve humanity and promote a sustainable world. The Certified HVAC designer (CHD) certification program supports this mission by validating job competency as understood in internationally recognized technical information, reflecting the best practices that lead our industry.

PURPOSE OF THE CHD CERTIFICATION

The CHD certification program validates competency of the HVAC designer, working under the responsible charge of an engineer, to do the following:

Design HVAC systems to meet building/project requirements, including load calculations, equipment selection and sizing, mechanical equipment room design, duct and piping design, and layout for the development of HVAC plans for permit and construction.

This Study Guide provides a framework and tools to help you self-assess your knowledge in HVAC design and create a customized, self-paced study plan for the CHD exam. ASHRAE offers numerous resources in the field. The Study Guide will help you target which resources are most beneficial based on your own professional development needs.

In this Study Guide, you, the candidate, are expected to evaluate your personal skills and qualifications against numerous Tasks broken down into individual Domains.

Depending on your experience level, some of these Tasks may be daunting and unfamiliar. If that is the case, consider it an opportunity for growth and devote extra attention to these matters. David Underwood, P. Eng., 2015-2016 ASHRAE President, once said that “we in the engineering community are in the solutions industry.” Based on this statement, it is your job to identify problems and produce solutions. The Tasks included in Domains 1-4 represent the skills necessary to produce solutions for HVAC-related problems, and this Study Guide represents your opportunity to fill gaps in your knowledge or experience base.

Using navigation buttons at top of screen: The buttons located at the top of each page allow you to navigate through this document. Click on these buttons to take you Back to view the last page you were on or to the First Page, Previous Page, Next Page, or Last Page. The Glossary button provides a direct link to the full glossary.



More information about the CHD credential and eligibility criteria can be found on the [ASHRAE website](#) and in the CHD [Candidate Guidebook](#).

Clicking links in this document will open in a browser window. You will need to navigate back to the PDF to pick up where you left off.

THE OVERARCHING GOALS OF THE STUDY GUIDE ARE TO:

- Provide a framework and tools for customized, self-paced exam preparation
- Focus your review on key elements of recommended exam preparation resources
- Review knowledge needed to design HVAC systems to meet building/project requirements
- Build knowledge and skills across the four (4) Domains of the CHD exam, which are:

1**Domain 1: System Design****2****Domain 2: Design Calculation****3****Domain 3: Procedural****4****Domain 4: Coordination**

- Identify key terms and concepts used by HVAC designers
- Provide the opportunity for you to test your acumen and readiness for the CHD exam
- Help you assess your own individual core content strengths and weaknesses, and build a study map customized for your needs

How to Use This Study Guide

This Study Guide is designed as a workbook that contains tools you can use to assess what you need to focus on as you prepare to take the exam.

The Study Guide is organized by Domains and Tasks. There are four Domains total, some of which have numerous Tasks (Domain 1 has 26 Tasks, for example), so we've broken them down into segments. The CHD certification exam was developed to assess your competence to perform each of these Tasks as organized under each Domain, so this is a great way to organize your study leading up to the exam and to also build and validate your knowledge, skills, and abilities as an HVAC designer.

ASHRAE offers numerous resources to help you study for the CHD certification exam; however, which resources do you need to review to prepare for the exam? The tools in this Study Guide link the Domains and Tasks with the resources available from ASHRAE to help you review and study the content. The tools will also help you determine which Tasks you need to focus upon. So, for example, if through the Self-assessment and Quick Quiz contained herein you discover that you have limited knowledge of Domain 1: System Design, Task A: Size supply, return, and exhaust ducts, the Study Guide will direct you to the 2017 *ASHRAE Handbook—Fundamentals*, Chapter 21.

ASHRAE [Resources](#) are listed in this [Study Guide](#) and are available in the [ASHRAE Bookstore](#)