



# 2012 Candidate Information Bulletin City of Philadelphia Engineering Grades A, B, C, D Exams

The Philadelphia Department of Licenses and Inspections (the Department) determines the licensing requirements and exam eligibility for engineering candidates. These licenses are required of anyone operating or maintaining any steam boiler, steam engine or refrigeration machinery. They are not applicable for Federal Government projects.

The Department has contracted with Prometric Inc. to conduct its examination program, including developing, administering, scoring and reporting exam results. The four written exams given are classified by grade: Grade A, Grade B, Grade C and Grade D. You should take the exam that will qualify you for the type of license you wish to obtain. The Department has sole jurisdiction for granting licenses.

## At a glance

This bulletin is your guide to the process of taking a Philadelphia engineering exam. The steps below summarize the process. For information about a step, go to the page listed.



### To take an exam

- 1** Submit your examination application to the Department—Page 2.  
Once the Department approves your eligibility to test, you will receive an exam registration form.
- 2** Submit your exam registration form and fee to Prometric.  
In return, you will receive an admission letter and exam appointment—Page 3.
- 3** Prepare for your exam using this bulletin and other materials—Page 6.
- 4** Present your required identification; then take the exam—Page 3.
- 5** If you pass, you will receive information from the License Issuance Unit—Page 5.



### To get answers not provided in this bulletin

#### For questions about exams:

Prometric  
 ATTN: PA City of Philadelphia Engineering Exams  
 1260 Energy Lane  
 St. Paul, MN 55108  
 Phone: 800.626.0750  
 Fax: 800.813.6670  
[www.prometric.com/pennsylvania](http://www.prometric.com/pennsylvania)

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#### Key

- Overview information
- Important note

## SUBMITTING YOUR APPLICATION

### For questions about exam qualifications and applications:

City of Philadelphia  
Department of Licenses and Inspections, License Issuance Unit  
Concourse-MSB, 1401 JFK Boulevard  
Philadelphia, PA 19102  
Phone: 215.686.8686  
<http://www.phila.gov/li/>

### **Submitting your application**

Before you can register and schedule your exam, you must complete the Department's Application for Occupational Examination. You can get a copy of the application online at <http://www.phila.gov/li/> or from the Department. If the Department approves your application, License Issuance will mail you an exam registration packet.

### **Registering and scheduling exams**

When you receive your registration packet from the Department, you should:

- 1 Complete the exam registration form.  
When completing the registration form, you must provide your contact information, Social Security number, and exam scheduling preferences. Prometric treats your Social Security number as **confidential**. It is used only as an identification number in maintaining your record and reporting your score to the Department.
- 2 Mail the registration form **and** the appropriate fees to Prometric at the address shown on the form. If you are paying by credit card, you may fax your registration form to Prometric at the fax number shown on the form. Payment can be made by including Visa or MasterCard information or a cashier's check or money order. **Cash and personal checks are not accepted.** Exam registration fees are not refundable or transferable.

Once Prometric receives your exam registration form, it is immediately processed and you are scheduled for your exam. You must take your exam on the scheduled date or you will forfeit your exam fees. If you cancel your appointment, you will **not** receive a refund.

#### **Exam dates and registration cutoff dates**

Exams are administered in the city of Philadelphia. Be sure to check your admission letter for the exact location, date and time of your exam.

#### **Exam and registration cutoff dates**

Philadelphia	
Cutoff	Exam
01/05/12	01/21/12
03/02/12	03/17/12
04/27/12	05/12/12
07/06/12	07/21/12
09/14/12	09/29/12
11/02/12	11/17/12



**Note** Prometric must receive your registration form and fee on or before the cutoff date. Registration forms received after the cutoff date will automatically be scheduled for the next exam date.

## Admission letter

After receiving and processing your registration, Prometric will send you an admission letter regarding the specific date, time and location of your exam.

In order to get your admission letter as fast as possible, please provide your email address on the registration form. Prometric will then send your admission letter to that email address. If you do not have an email address, your admission letter will be sent by mail, which will take longer to arrive.

You should receive your admission letter approximately 10 days before your exam. If you lose your admission letter or have not received it three days before your exam, call Prometric immediately at 800.626.0750.

Be sure to notify Prometric and the Department of any change of address.



**Important** If you do not appear for your exam on the date and at the time shown on your admission letter, or arrive late and are not allowed to test, you forfeit all fees. You will be required to submit another exam registration form and pay another exam fee before taking any exam.

## Emergency closings

Severe weather or an emergency could require canceling scheduled exams. If this occurs, Prometric will attempt to contact you by phone. However, you may check for test site closures by calling Prometric. If the site is closed, your exams will be rescheduled without a rescheduling fee.

If a test center is open for testing and you choose not to appear for your appointment, you will forfeit your fee.

## Special consideration

**ADA accommodation.** If you require testing accommodations under the Americans with Disabilities Act (ADA), please call Prometric at 800.626.0750 to obtain an accommodation request form. Reasonable testing accommodations are provided to allow candidates with documented disabilities recognized under the ADA an opportunity to demonstrate their skills and knowledge.

Submit professional documentation of your disability with your form to help us determine the necessary testing arrangements. Thirty days' advance notice is required for all special testing arrangements. There is no additional charge for these accommodations.

**ESL note.** If English is your second language, please note that a language barrier is not considered a disability.

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## ***What to bring on exam day***

Bring all the following items with you to your exam appointment:

- Your admission letter.
- A current, valid government-issued photo identification card, such as a driver's license or passport.
- Two sharpened No. 2 pencils with erasers.
- A silent, nonprinting, nonprogrammable, numeric calculator. The Electric Calc **is not** permitted.
- References approved for use during your exam.



**Important** Failure to provide appropriate identification at the time of the exam is considered a missed appointment. If you miss an appointment, you forfeit your fees.

## ***Test center regulations***

To ensure that all candidates are tested under equally favorable conditions, the following regulations and procedures will be enforced at each test center. Failure to follow any of these security procedures may result in disqualification of your examination. Prometric reserves the right to audiotape and videotape any examination session.

- References**
  - Only approved references are allowed for open-book exams. Photocopies of reference materials may **not** be used. No handwritten or additional notes (letters, words, diagrams, etc.) are allowed in reference books. Any reference material that has been written in during the exam will be confiscated. Highlighting and permanent tabbing added before your arrival at the test center is acceptable. Post-it<sup>®</sup> notes are not considered permanent tabbing and will not be allowed.
  - Sharing reference materials is not allowed.
  - No other reference materials, papers or study materials are allowed at the test center. If you are found with these or any other aids, you will not be allowed to continue the exam and your answers will not be scored.
- Calculators**
  - Only silent, handheld, solar or battery-operated, nonprogrammable calculators (without paper tape-printing capabilities or alphabetic keypads) may be used. The Electric Calc **is not** permitted.
- Personal items**
  - You **must not** bring any personal/ unauthorized items into the test center. Such items include but are not limited to: cell phones, PDAs, pagers, cameras, recording devices, photographic equipment, watches, outerwear, hats, food, drinks, purses, briefcases, backpacks, and notebooks.
- Breaks**
  - If you leave the testing room while an exam is in progress, you must sign out/in on the roster and you will lose exam time.
  - You are not allowed to use any electronic devices or phones during breaks.
- Visitors**
  - No guests, visitors or family members are allowed in the testing area.
- Misconduct or disruptive behavior**
  - Candidates who engage in any kind of misconduct or disruptive or offensive behavior may be dismissed from the examination. Examples are: giving or receiving help, taking part in an act of impersonation, removing test materials or notes from the testing room, using rude or offensive language and behavior that delays or interrupts testing.
- Weapons**
  - Weapons are not allowed at the test center.



**Important** Every time you enter the test room, you will be asked to turn your pockets inside out to confirm that you have no prohibited items. The test center administrator will collect any materials that violate the rules.

**Copyrighted questions.** All test questions are the property of Prometric Inc. and are protected by copyright. Federal law provides severe civil and criminal penalties for the unauthorized reproduction, distribution, or exhibition of copyrighted materials.

**If questions arise.** Test center administrators are not allowed to answer any questions pertaining to the exam content. If you do not understand a question on the examination, you should answer the question to the best of your ability.

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## ***Your exam results***

A score report will be mailed to you approximately 10 business days after your exam date. All score reports are mailed simultaneously. To ensure confidentiality, scores will **not** be disclosed over the phone.

**Passing score.** A score of 70 percent or above is required to pass each exam. Scores are based on the number of questions answered correctly. You will not be given credit for any question answered incorrectly, marked with more than one answer or left blank. There is no penalty for guessing, so be sure to mark an answer for each question. If you pass your exam, License Issuance will contact you about the process for receiving your license.

**Retake information.** If you do not pass the exam, you must complete another registration form and pay another full exam fee. You may retake the exam on any future exam date.

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## ***Appeals process***

Our goal is to provide quality exams and a pleasant testing experience for every candidate. If you are dissatisfied with either and believe we can correct the problem, we would like to hear from you. We provide an opportunity for general comments at the end of your exams. Your comments will be reviewed by our personnel, but you will not receive a direct response.

If you are requesting a response about exam content, registration, scheduling or test administration (test site procedures, equipment, personnel, etc.), please submit an appeal in writing. Your appeal letter must provide your name and Social Security number, the exam title, the date you tested and the details of your concern, including all relevant facts. Be sure to include your signature and return address. Mail your appeal letter to:

**Prometric**  
**ATTN: Appeals Committee**  
1260 Energy Lane  
St. Paul, MN 55108

The Appeals Committee will review your concern and send you a written response within 10 business days of receipt. **Faxed appeals are not accepted** because an original signature is required.

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## ***Optional services***

This section describes optional services that Prometric provides.

### **Strength and weakness report**

If you do not pass an exam, you may request a strength and weakness report. This report is a useful guide that pinpoints where you need to concentrate your study efforts before retaking the exam. It shows how many questions were included in each subject area and how many questions you answered correctly in each area. The fee for a strength and weakness report is \$15.

**Exam reviews**

If you do not pass an exam, you can register for an optional review of it. The review is a study session that is conducted much like an exam. A review is not considered an exam attempt and is not scored. You may use your reference material during the review process. You are not allowed to bring anyone with you to the review. You may not remove notes or exam materials from the review room.

You must request an exam review within 30 days of the date exam results were mailed. You must complete the review at least 30 days before you retake the test. The fee for an exam review is \$90. Contact Prometric to review an exam.

**Certificate of achievement**

Candidates passing their exams deserve recognition for their accomplishment. Prometric has prepared a beautifully designed 8.5"×11" certificate of achievement. This certificate is suitable for framing and contains your name and the name of the exam you successfully completed in a calligraphy typeface. Prometric will send you an order form with your score report. The cost is \$15.

**Exam content outlines**

The following content outlines are the basis of the Philadelphia engineering exams and list all subjects covered by each exam. Each outline indicates the total questions on the exam and the maximum time allowed. It also lists the approximate percentage of questions asked about each topic.

The exams are open-book and in a multiple-choice format. Some questions may require the use of arithmetic. Some may refer to a figure drawing, table or chart located in the test booklet.

**Exam references.** Each outline lists references that were used to develop the exams, including references that are allowed in the exam room. **Some information found in the references does not apply to the exams.** For information on how to obtain references, call toll-free 877.624.2562.

<p><b>Grade A Exam</b>  <b>Open Book, 100 questions, 4 hours</b></p>
<p>The Engineering <b>Grade A</b> exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, refrigeration and air conditioning units, steam driven equipment, internal combustion engines, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical and electrical control systems, pumps, water treatment, test equipment and safety devices used to maintain and safely operate all of the above equipment. This covers work on steam boilers operating with pressures at or above 15 psi steam and driven by motors rated at or above 30 Hp and hot water boilers operating at pressures above 160 psi and/or temperatures above 250 degrees Fahrenheit. This <b>does not</b> cover work on residential buildings, federal government projects or for utility operations.</p>

Exam Topic	%
Boiler types, accessories and fittings	15
Fuels, fuel piping, storage and firing methods	10
Boiler startup and operation	15
Boiler maintenance	15
Refrigeration systems and operation	25
Internal combustion engines	2
Codes and laws; the basics	8
Controls and control systems	10

**References allowed in the exam room**

- Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.

**References allowed in the exam room**

- 4 *Modern Refrigeration and Air Conditioning*, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.
- 5 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.
- 6 *The Clean Air Act, Section 610*, Environmental Pollution Control Agency, www.epa.gov/oar/caa/.
- 7 *Code of Federal Regulations, Title 40, Part 82*, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, www.access.gpo.gov.

**Grade B**

**Open Book, 80 questions, 3 hours**

The Engineering **Grade B** exam covers the operation, maintenance, repair, inspection, testing and overhaul of refrigeration systems, air conditioning units and internal combustion engines, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of condenser and chilled water systems, refrigeration piping and tubing, water treatment, test equipment, cooling towers and condensing units, and safety devices used to maintain and safely operate all of the above equipment. This also includes internal combustion engines but **does not** cover work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Refrigeration	10
Controls and control systems	10
Refrigerants	20
Air conditioning	20
Chilled and condensing water piping and treatment systems	10
Ventilation systems	10
Ducts and duct systems	5
Test, adjust and inspection	10
Internal combustion engines	2
Codes, laws, rules and regulations; the basics	3

**References allowed in the exam room**

- 1 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 2 *Modern Refrigeration and Air Conditioning*, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.
- 3 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.

**References allowed in the exam room**

- 4 *The Clean Air Act, Section 610*, Environmental Pollution Control Agency, www.epa.gov/oar/caa/.
- 5 *Code of Federal Regulations, Title 40, Part 82*, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, www.access.gpo.gov.

**Grade C Exam**

**Open Book, 80 questions, 3 hours**

The Engineering **Grade C** exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, steam driven equipment, internal combustion engines, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of steam and hot water systems, test equipment, and safety devices used to maintain and safely operate all of the above equipment. This covers work on steam boilers operating with pressures at or above 15 psi steam and driven by motors rated at or above 30 Hp and hot water boilers operating at pressures above 160 psi and/or temperatures above 250 degrees Fahrenheit. This **does not** cover work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Boiler types, accessories and fittings	20
Fuels, fuel piping, storage and firing methods	15
Boiler startup and operation	20
Boiler maintenance	20
Internal combustion engines	5
Codes and laws; the basics	10
Controls and control systems	10

**References allowed in the exam room**

- 1 *Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- 2 *High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 3 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 4 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.

**EXAM CONTENT OUTLINES**

**Grade D Exam**  
**Open Book, 50 questions, 3 hours**

The Engineering **Grade D** exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of steam and hot water systems, test equipment, and safety devices used to operate and safely maintain all of the above equipment. This covers work on steam and hot water boilers operating with pressures at or below 15 psi steam and driven by motors rated at any Hp. This **does not** cover work on refrigeration or air conditioning systems, steam turbines, internal combustion engines or work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Boiler types, accessories and fittings	25
Fuels, fuel piping, storage and firing methods	25
Boiler startup and operation	25
Boiler maintenance	25

**References allowed in the exam room**

- 1** *Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- 2** *High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 3** *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 4** *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.

# Exam Registration Form

## for City of Philadelphia Engineering exams



### Candidate Information

Last Name	First Name	Middle Initial	Social Security Number _____ - _____ - _____
Street Address (including Apt. number or P.O. Box, if applicable)			
City	State	ZIP Code	Email Address
Daytime Phone Number (including area code) (     )		Business Phone Number (including area code) (     )	

### Exam Selection and Fees

Exam Title	Exam Fee	Total
Grade A	\$90	\$
Grade B	\$90	\$
Grade C	\$90	\$
Grade D	\$90	\$
Optional Services	Fee	
Exam Review	\$90	\$
	Total Fee	\$

**Payment:** Fees may be paid by cashier's check, money order, MasterCard or Visa, payable to Prometric. Please include your full name on the check. **Personal checks and cash are not accepted. Fees are nonrefundable.**

To pay by credit card, please complete the information below.

Card Type (Check One) <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa	Card Number	Expiration Date
Name of Cardholder (Print)		Signature of Cardholder

### Exam Date Selection (Indicate your preferred testing date.)

X	Cutoff Date	Exam Date
	01/05/12	01/21/12
	03/02/12	03/17/12
	04/27/12	05/12/12
	07/06/12	07/21/12
	09/14/12	09/29/12
	11/02/12	11/17/12

By signing and submitting this form, I certify that I am the candidate named above and I agree to comply with all examination rules and regulations.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Keep a copy of this registration form for your records.)

**Once completed, submit this form and exam fees:**

**By Mail:** Prometric, Attn: PA City of Philly Engineering Program, 1260 Energy Lane, St. Paul, MN 55108; or

**By Fax (if paying by credit card):** 800.813.6670.