

2012 Candidate Information Bulletin

State of Hawaii

Electrician Examinations

At a glance

The State of Hawaii Board of Electricians and Plumbers (the Board) has contracted with Prometric Inc. to conduct its examination program.

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



To take an electrician exam

- 1** Obtain an application from the Board. Mail your completed application and fee to the Board at the address below.
Once the Board approves your application, you will be sent a notice of approval with an exam registration form.
- 2** Submit your exam registration form and the exam fee (\$95) to Prometric by the deadline date.
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 admission letter and required identification; then take the exam—Page 4.
After passing your exam, you will need to submit your license fees to the Board.



To get answers not provided in this bulletin



For questions about exams:

Prometric
354 Uluniu Street, Suite 308
Kailua, HI 96734
Phone: 808.261.8182
www.prometric.com/hawaii

For questions about eligibility requirements and licensing:

State of Hawaii
Board of Electricians and Plumbers
P.O. Box 3469
Honolulu, HI 96801
Phone: 808.586.3000
www.hawaii.gov/dcca/areas/pvl

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Submitting your license application

You are not allowed to register for your exam until the Board approves your application. You can obtain an application form from the Board or online at www.hawaii.gov/dcca/areas/pvl. When your application is approved, the Board will send you an exam registration form and two approval letters.

Registering and scheduling exams

Once you receive approval from the Board, you should:

- 1** Complete the exam registration form.
When completing the registration form, you must provide your contact information, Social Security number, exam scheduling preferences and payment. Prometric will treat your Social Security number as **confidential**. It will be used only as an identification number in maintaining your record and reporting your score to the Board.
- 2** Attach one approval letter to the registration form.
- 3** Mail the registration form, approval letter **and** the appropriate fees to Prometric at the address shown on the form.

Fees. The exam fee is \$95 (\$90 for the exam administration plus \$5 for use of the *Code* book during the exam). Payment can be made by Visa or MasterCard, check or money order. Prometric will charge a **\$20 fee** for any returned check. **Exam registration fees are not refundable or transferable.**



Note Prometric **must** receive your registration form and fee **on or before** the deadline date. Once you pay the exam fees, you may **not** reschedule your exam or receive a refund.

Exam dates and registration cutoff dates. Exams are offered on specific dates each month at several locations. An exam schedule with testing locations, exam dates and registration deadline dates will be sent with your approval information. An exam schedule is also posted online at www.prometric.com/hawaii.

If you are unable to take the exam on the scheduled test date because of religious restrictions, submit a letter of explanation with your exam registration form.

Walk-in testing at the Oahu location. Walk-in testing is available under certain circumstances. If you have been approved for an exam by the Board, you may take the exam by appointment on a date other than the scheduled testing dates offered. A "walk-in" fee of \$50 is added to the basic exam fee. All other conditions in this bulletin apply.

Special consideration

ADA accommodation. If you require testing accommodations under the Americans with Disabilities Act (ADA), please call Prometric at 808.261.8182 to obtain an accommodation request form. This form must be submitted, along with written professional verification of your disability, **before** you schedule your exam. Reasonable testing accommodations are provided to allow candidates with documented disabilities recognized under the ADA an opportunity to demonstrate their skills and knowledge.

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

Admission letter

If your registration form and payment are received by the registration deadline, Prometric will send you an admission letter. This letter provides information regarding the specific date, time and location of your exam. You **must** present this letter at the test center or you will not be allowed to test.

You should receive your admission letter approximately five days before the exam. If you lose your admission letter or have not received it three days before the exam, call Prometric immediately at 808.261.8182.

Be sure to notify Prometric and the Board 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, you forfeit all fees.

Preparing for your exam

Preparing can help you pass your exam and possibly save time and money needed to take it again. You can use the content outlines in this bulletin (beginning on Page 6) to prepare for your exam. The exams are based on these content outlines.

All exams consist of multiple-choice questions. Three different multiple-choice formats are used. Each format is shown in the following examples. An asterisk (*) indicates the correct answer in each sample question.

Format 1—Direct question

Given: Six, 240-volt, Size 8 AWG copper, type TW conductors are to be installed in a single raceway.

What is the MAXIMUM allowable current of each conductor?

- (A) 28 amps
- * (B) 32 amps
- (C) 40 amps
- (D) 50 amps

Format 2—Incomplete sentence

Disregarding exceptions, if the copper service-entrance conductors are size 3/0, the MINIMUM size of a copper grounding electrode conductor is size

- (A) 3/0 AWG.
- (B) 2/0 AWG.
- (C) 2 AWG.
- * (D) 4 AWG.

Format 3—All of the following EXCEPT

All of the following common test instruments require physical connection to a circuit EXCEPT:

- * (A) an ammeter
- (B) an ohmmeter
- (C) a voltmeter
- (D) a wattmeter

What to bring on exam day

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

- Your admission letter from Prometric.
- A current, valid, government-issued photo identification, such as a passport or driver's license.
- Two sharpened No. 2 pencils.
- A silent, nonprinting, nonprogrammable calculator.



Important Failure to provide appropriate identification and your admission letter at the time of the exam is considered a missed appointment. If you miss an appointment or arrive late, 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 observed 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

- You should not bring any reference materials, notebooks, papers or study materials to the test site. 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.
- The *NFPA-70 – National Electrical Code*, will be supplied to you at the test center. You will not be allowed to bring in your own copy of this reference.

Calculators

Only silent, handheld, solar or battery-operated, nonprogrammable calculators (without paper tape-printing capabilities or alphabetic keypads) may be used.

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 Before an exam begins, the test center administrator will inspect briefcases, purses, and so on to ensure that candidates are not in violation of any of these rules. The administrator will collect any materials that violate the rules.

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. There is no penalty for guessing, so be sure to mark an answer for each question.

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.

Your exam results

A score report will be mailed to you approximately 10 business days after your exam date. Your score report will provide you with information regarding your next step in the licensure process. 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.

Exam scores for walk-in testing are **not** released early. Exam scores are reported to the candidate and the Board at the same time scores from the next regularly scheduled exam are released. Do not call the Board for your score.

Retake information. If you do not pass the exam, you will receive a retake exam registration form and retake procedure information with your score report.

Appeals process

Our goal is to provide a quality exam 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 exam. 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 (testing 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.

Optional services

This section describes optional services that Prometric provides.

Exam reviews

An exam review is offered once each month on Oahu to candidates who did not pass the exam. During an exam review, you are given a copy of your exam booklet. You also receive a printout showing the questions missed and the incorrect answers given on your last exam attempt.

You are **not given correct answers** to any questions. **No** books are allowed and you may **not** remove notes or exam materials from the review room. **This is not a class.**

The purpose of a review is not to teach you the exam subject matter. Rather, it is an option you may choose for study purposes. You are **not** allowed to bring an advisor or anyone else with you to the review. A review is **not** considered an exam attempt and is not scored. You may **not** retake an exam on the same day you review it.

The fee for this review is \$50. Call Prometric to schedule an exam review. Candidates from neighboring islands, please call for special arrangements.

Certificate of achievement

Candidates passing their exams deserve recognition for their accomplishment. Prometric has prepared an 8.5" x11" 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. The cost is \$15.

Exam content outlines

Following are the content outlines for the Hawaii electrician exams. These outlines list all subjects covered in each exam and the approximate percentage of questions asked about each topic. The exams consist of multiple-choice questions. A score of 70 percent or above is required to pass each exam.

Exam references. Each outline lists all references used to develop the exams. **Some information found in the references does not apply to the exams.** References can be found at local libraries, bookstores or at trade and technical colleges, or can be ordered by calling toll-free 877.624.2562.



Important You are allowed to use the *NFPA-70 – National Electrical Code* during the exam. The book will be supplied to you at the test center.

**Supervising Electrician Exam
Open Book, 70 questions, 3 hours**

Scope – “Supervising Electrician” means any person who has been licensed by the board as a supervising electrician to direct and supervise the performance of electrical work and to perform electrical work.

Subject	Percentage
General Electrical Knowledge	10
Raceways and Enclosures	10
Services, Feeders and Branch Circuits	20
Conductors and Cables	10
Grounding and Bonding	12
Equipment for General Use	10
Special Occupancies, Equipment and Conditions	10
Motors and Controls	10
Low Voltage and Communication Circuits	4
Safety	4

Reference allowed during the exam

The following reference **is provided** in the test center. No highlighting or notes of any sort may be made in the book during the exam.

- 1** *NFPA 70 – National Electrical Code, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.*

References used to create exam questions but not allowed in the exam center

- 1** *Delmar’s Standard Textbook of Electricity, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.*
- 2** *ANSI C2-2007 – National Electrical Safety Code, 2007, Institute of Electrical and Electronics Engineers (IEEE), 10662 Los Vaqueros Circle, Box 3014 Los Alamitos, CA 90720-1264, www.ieee.org.*

Supervising Industrial Electrician Exam
Open Book, 70 questions, 3 hours

Scope – “Supervising Industrial Electrician” means any person who has been licensed by the board as a supervising industrial electrician to direct and supervise electrical work related to substation, switchgear, automatic controls, and all other industrial electrical work in existing industrial buildings and work places.

Subject	Percentage
General Electrical Knowledge	17
Raceways and Enclosures	11
Services, Feeders and Branch Circuits	13
Conductors and Cables	10
Grounding and Bonding	13
Motors and Controls	17
Equipment for General Use	7
Special Occupancies and Equipment	7
Low Voltage Circuits	1
High Voltage Circuits	3

Reference allowed during the exam

The following reference **is provided** in the test center. No highlighting or notes of any sort may be made in the book during the exam.

- 1 *NFPA 70 – National Electrical Code*, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.

Reference used to create exam questions but not allowed in the exam center

- 1 *Delmar’s Standard Textbook of Electricity*, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.

Supervising Specialty Electrician Exam
Open Book, 50 questions, 2 hours

Scope – “Supervising Specialty Electrician” means any person who has been licensed by the board as a supervising specialty electrician to direct and supervise the performance of electrical work related to installing, repairing, altering, and maintaining but not attachment of lighting, and power circuit, to the following: electronic equipment, sound public address systems, other than equipment and systems for single-family or two-family dwelling; master or communication radio and television receiving antenna systems; sound recording systems other than systems for a single-family or two-family dwelling; burglar and fire alarm systems; other than equipment and systems for a single-family or two-family dwelling; low voltage remote control, other than control for a single-family or two-family dwelling; and low voltage communication signal systems.

Subject	Percentage
General Electrical Knowledge	20
Raceways and Enclosures	6
Conductors and Cables	12
Grounding and Bonding	8
Special Occupancies and Equipment	6
Fire Detection and Alarm Systems	18
Intrusion Detection and Alarm Systems	18
Low Voltage and Communications Circuits	12

Reference allowed during the exam

The following reference **is provided** in the test center. No highlighting or notes of any sort may be made in the book during the exam.

- 1 *NFPA 70 – National Electrical Code*, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.

References used to create exam questions but not allowed in the exam center

- 1 *Delmar’s Standard Textbook of Electricity*, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.
- 2 *Alternating Current Fundamentals*, Seventh Edition, 2006, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.
- 3 *NFPA 72 – National Fire Alarm Code*, 2007 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.

Journey Worker Electrician Exam
Open Book, 70 questions, 3 hours

Scope – “Journey Worker Electrician” means any person who has been licensed by the board as a journey worker electrician to perform electrical work.

Subject	Percentage
General Electrical Knowledge	16
Raceways and Enclosures	13
Services, Feeders and Branch Circuits	11
Conductors and Cables	13
Grounding and Bonding	11
Equipment for General Use	11
Special Occupancies, Equipment and Conditions	10
Motors and Controls	9
Low Voltage and Communications Circuits	3
Safety	3

EXAM CONTENT OUTLINES

Reference allowed during the exam

The following reference **is provided** in the test center. No highlighting or notes of any sort may be made in the book during the exam.

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- 1 *Delmar’s Standard Textbook of Electricity, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.*
- 2 *ANSI C2-2007 – National Electrical Safety Code, 2007, Institute of Electrical and Electronics Engineers (IEEE), 10662 Los Vaqueros Circle, Box 3014 Los Alamitos, CA 90720-1264, www.ieee.org.*

**Journey Worker Industrial Electrician Exam
Open Book, 70 questions, 3 hours**

Scope – “Journey Worker Industrial Electrician” means any person who has been licensed by the board as a journey worker industrial electrician to perform and maintain electrical work related to substation, switch-gear, automatic controls, and all other industrial electrical work in existing industrial buildings and work places.

Subject	Percentage
General Electrical Knowledge	16
Raceways and Enclosures	13
Services, Feeders and Branch Circuits	11
Conductors and Cables	9
Grounding and Bonding	13
Motors and Controls	17
Equipment for General Use	13
Special Occupancies and Equipment	7
Low Voltage Circuits	1

Reference allowed during the exam

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- 1 *NFPA 70 – National Electrical Code, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.*

Reference used to create exam questions but not allowed in the exam center

- 1 *Delmar’s Standard Textbook of Electricity, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.*

**Journey Worker Specialty Electrician Exam
Open Book, 50 questions, 2 hours**

Scope – “Journey Worker Specialty Electrician” means any person who has been licensed by the board as a journey worker specialty electrician to perform electrical work related to installing, repairing, altering and maintaining but not attachment of lighting and power circuit to the following: electronic equipment, sound public address systems, and communication systems other than equipment and systems for a single-family or two-family dwelling; master or communication radio and television receiving antenna systems; sound recording systems, other than systems for a single-family or two-family dwelling; burglar and fire alarm systems; low voltage remote control, other than a control for a single-family or two-family dwelling; and low voltage communication signal systems.

Subject	Percentage
General Electrical Knowledge	20
Raceways and Enclosures	6
Conductors and Cables	12
Grounding and Bonding	8
Special Occupancies and Equipment	6
Fire Detection and Alarm Systems	18
Intrusion Detection and Alarm Systems	18
Low Voltage and Communications Circuits	12

Reference allowed during the exam

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- 2 *Alternating Current Fundamentals, Seventh Edition, 2006, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.*
- 3 *NFPA 72 – National Fire Alarm Code, 2007 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.*

Maintenance Electrician Exam
Open Book, 50 questions, 2 hours

Scope – “Maintenance Electrician” means any person who has been licensed by the board as a maintenance electrician to maintain electrical work.

Subject	Percentage
General Electrical Knowledge	10
Raceways and Enclosures	12
Services, Feeders and Branch Circuits	12
Conductors and Cables	10
Grounding and Bonding	10
Equipment for General Use	24
Special Equipment	6
Special Occupancies	6
Special Conditions	6
Safety	4

Reference allowed during the exam

The following reference **is provided** in the test center. No highlighting or notes of any sort may be made in the book during the exam.

- 1** *NFPA 70 – National Electrical Code, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.*

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- 1** *Delmar’s Standard Textbook of Electricity, Fourth Edition, 2008, Delmar Learning, P.O. Box 6904, Florence, KY 41022, www.delmarlearning.com.*
- 2** *ANSI C2-2007 – National Electrical Safety Code, 2007, Institute of Electrical and Electronics Engineers (IEEE), 10662 Los Vaqueros Circle, Box 3014 Los Alamitos, CA 90720-1264, www.ieee.org.*