



CAPSTONE  
COLLEGE

# Catalog

April 1, 2022 – December 31, 2022



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**ADMINISTRATION**

Lou Rodriguez ..... School Director  
Bridget Baumgartner ..... Financial Aid Director  
Angelica Martinez..... Senior Financial Aid Officer  
Irene Gonzalez..... Registrar  
Dennis Alvarez ..... Admissions  
John Gomez ..... Career Services Coordinator

**FACULTY**

Mr. David Marquez, HVAC Instructor: Mr. Marquez is a California HVAC Contractor/business owner with a C-20 license. Mr. Marquez has over 9 years of experience in the HVACR industry working in the residential and commercial sectors including Lennox International. He has over five years teaching HVAC technology in postsecondary education. Mr. Marquez holds numerous professional certifications including NATE and EPA certified Universal.

Mr. Alexis Benitez, HVAC Instructor: Mr. Benitez is a California HVAC Contractor and business owner with a C-20 license. Mr. Benitez earned a Bachelor of Science in Business Administration from California State University, Los Angeles. He has over 8 years of HVAC work experience and holds numerous professional certifications and EPA certified Universal.

Joe Torres, Electrician Instructor: Mr. Torres has over 20 years of Electrical, HVAC and Building Engineering related experience, including facility management, and building automation systems. Mr. Torres earned an Associate Degree (AA) in Electrical Construction and Maintenance Construction Technologies from Los Angeles Trade and Technical College. He holds numerous professional certifications. Mr. Torres, a member of the IUOE local 501 was previously a member of the IBEW local 441 as a General Electrician Journeyman.

Ricardo Casillas, Electrician Instructor: Mr. Casillas has over 15 years of Electrical, HVAC and Building Engineering related experience, including facility management, and building automation systems. Mr. Casillas completed classes in Electrical Construction and Maintenance Construction Technologies at Los Angeles Trade and Technical College. He holds numerous professional certifications. Mr. Casillas is a member of the IUOE local 501 as a Journeyman.

Jack McCarty, Electrician Instructor: Mr. McCarty has over 5 years’ experience as an Electrician in a multitude of environments in the electrical industry. These include residential, commercial, industrial, and photovoltaic installations. He has over one year of experience teaching Electrician classes at private vocational colleges. Mr. McCarty has completed classes in Electrical installation at WECA and holds professional certifications.

## **SCHOOL PHILOSOPHY and MISSION STATEMENT**

The philosophy of Capstone College is to train its students in the skills, habits, and attitudes required for success in the workplace. Capstone College provides an academic environment with flexible instruction adapted to the individual student's needs.

**Our Mission:** To offer vocational educational programs designed to meet the academic and technical skill standard expectations of industry for students to become successfully employed in the career field each program is designed for, to foster life-long learning and meet the changing needs of the students and the communities we serve.

**Our Objectives:** Capstone College supports its mission by an on-going review of its educational process, industry standard expectations and we effectively serve our students and communities by:

- Providing instruction based on job-specific curriculum design with industry-experienced faculty
- Using instructional materials and equipment that meets industry standards and expectations
- Providing Student Support and Career Services to assist graduates with job placement
- Obtaining employer feedback to ensure programs remain relevant

**NON-DISCRIMINATION CLAUSE**

No person shall be denied admission, graduation, or any other rights or privileges of the School because of race, creed, sex, religion, national origin, age, or physical disabilities. The institution accepts applicants with physical or mental handicaps or learning disabilities. The building, bathrooms, elevators, and classrooms are all handicapped accessible. Special procedures for administration of these tests may be utilized where appropriate and as designated by the test publisher. The individual will be counseled by the Director of the school as to the realities of employment at the completion training and may be asked to sign a statement to that effect.

**APPROVAL DISCLOSURE STATEMENT**

Capstone College is a private institution located at 1200 N. Fair Oaks Ave., #32 in Pasadena, California. The school is approved to operate by the Bureau for Private Postsecondary Education. The Bureau approval means that the institution and its operations comply with the standards established under the law for occupational instruction by private postsecondary educational institutions. Institutional approval must be renewed and is subject to continuing review. Capstone College is also approved for the training of veterans. The following are approved currently offered courses:

HVAC TECHNICIAN	750 CLOCK HOURS	56.5 Quarter Credit Units
ELECTRICIAN	792 CLOCK HOURS	66.4 Quarter Credit Units

Instruction is in residence with Capstone College occupancy level accommodating 90 students at any one time.

California statute requires that a student, who successfully completes a course of study, be awarded an appropriate certificate verifying the fact.

Prospective students are encouraged to visit the physical facilities of the school and discuss personal educational and occupational plans with school personnel prior to enrolling or signing an enrollment agreement.

Instruction is provided in English and in no other language. English as-a-second language is not provided. The level of English language proficiency is required at the level of a high school diploma or GED certificate.

I declare under penalty of perjury under the laws of the State of California that the foregoing and all attachments are true and correct.



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

School Official

## **ACCREDITATION**

Capstone College is accredited by the Accrediting Council for Continuing Education and Training (ACCET), an accrediting agency recognized by the United States Department of Education.

## **SCHOOL HISTORY**

Capstone College is located in Pasadena, California near the Foothill Freeway (I-210). The Institution was founded in 1987 and was moved to its current location in September 2013. Since its inception the school has offered career focused training programs to adult learners. In 1993 the stock of the corporation was purchased by Merrill Lyons and Janet Grossfeld. In 2006, Merrill Lyons became sole stockholder of the corporation. On April 2, 2009, Capstone College was acquired by Capstone Colleges, LLC, a division of Capstone Education. The governing Board members are J. Ramon Villanueva, and Mark Hecht.

## **FACILITIES**

Capstone College is housed in an 8,000 square foot facility consists of offices and classrooms with a capacity for sixty students. The building has full handicapped access, convenient sanitary facilities, and a relaxing atmosphere. Student parking is available at no extra charge. The classrooms are adequately furnished and equipped with up-to-date instructional equipment to enable the students to develop the skills in current demand by employers. Personal computers and printers are available for students' use with internet access.

The facilities and equipment fully comply with all federal, state and local ordinances and regulations. A library consisting of books, publications, and trade magazines, current and relevant to industry is maintained. Library resources are made available to students through a systematic process supporting the education delivery process. In addition, student may request copies of the resources for use on campus or for home use by making arrangements with the registrar. Personal computers with internet access are made available to students for completion of assignments or conduct research.

Prospective students are encouraged to visit the physical facilities of the School and discuss their individual educational and occupational plans with school personnel before seeking admission.

## **CLASS SIZES**

Capstone College maintains class sizes that allow for an individualized instructional approach. Maximum class sizes are 25 students in a lecture class with no more than 15 students per instructor in a laboratory class.

## **ADMISSIONS POLICY AND PROCEDURE**

1. All applicants are required to complete an application for admission and an enrollment agreement prior to the start of any class. We welcome high school graduates, students with GEDs, and non-high school graduates without any additional requirements.
2. Completion of a personal interview with an Admissions Representative is also a requirement for admission to the school. The interview enables administrators to determine the qualifications of a potential applicant. It is also designed to provide the candidate with a better understanding of career fields, program descriptions, school information, and a tour of campus.
3. All applicants must be at least 18 years old.
4. Admissions Procedure for students with special needs: The institution accepts applicants with physical or mental handicaps or learning disabilities. The building, bathrooms, elevators, and classrooms are all handicapped accessible. The individual will be counseled by the Director of the school as to the realities of employment at the completion training and may be asked to sign a statement to that effect.

## **GRADUATION REQUIREMENTS AND COURSE COMPLETION**

Successful completion of a course is based on examination, class work, written reports and practical accomplishments. The intent is to determine student ability and proficiency in the subject being covered.

Students are awarded a Certificate for successful completion of all graduation requirements for the chosen program of study. Graduation requirements include a minimum grade point average (GPA) of 2.0, a minimum completion of 80% of the hours of the program, and payment in full of all tuition and fees.

## **TRANSCRIPTS**

Students may request official or unofficial transcripts at any time. Transcript requests must be in writing. Transcripts will not be released if the student has an outstanding financial obligation to the college. Transcript requests are forwarded to the school Registrar.

## **ATTENDANCE POLICY**

Students are expected to attend classes regularly. Absences from class can seriously affect the quality of the training and the student's potential in the job market. It is recognized that certain situations may arise from time to time over which a student has no control. However, it is the responsibility of the student to notify the school in advance if they will be absent or late, just as it is necessary to inform an employer.

## **ELEMENTS OF SATISFACTORY ATTENDANCE**

**Absenteeism:** Students are expected to maintain a minimum of 80% of attendance throughout the enrollment period. Attendance is checked at a minimum every (8) eight weeks. Failure to maintain satisfactory attendance will result in Attendance Probation for a period of Sixty (60) days. Students with (10) ten days of continuous non-attendance will automatically be considered withdrawn from the program.

**Excused Absences:** An EXCUSED absence is considered only when the student notifies the school on the day, or prior to the day, of the absence, or under special circumstances such as illness, provides a written note specifying the reason for the absenteeism. The student may notify the registrar, instructor, or the administration office. The absence will be recorded as excused however excused absences are included in the calculation to determine the minimum attendance requirement.

**Tardiness:** For the purpose of satisfactory attendance, students arriving more than 15 minutes late without a legitimate reason or excuse will be deducted one-hour of the total attendance scheduled for that day. Three (3) unexcused tardiness will constitute one (1) day of missed attendance.

**Early Departures:** For the purpose of satisfactory attendance, students leaving more than 15 minutes early without a legitimate reason or excuse will be deducted one-hour of the total attendance scheduled for that day. Four (4) unexcused early departures will constitute one (1) day of missed attendance.

**Make-up Time, Work and Exams:** There is no make-up of work missed or time missed. Students must make and maintain satisfactory progress and attendance. Failure to achieve progress of attendance benchmarks will result in probation. If deficiency is not corrected within the probationary period (sixty-day), the student will be withdrawn from the program.

## **GRADING SYSTEM**

Capstone College uses the following letter grade system to evaluate academic performance:

100 - 90	A = 4.0	69 – 60	D = 1.0
89 - 80	B = 3.0	Below 59	F = 0.0
79 - 70	C = 2.0	I = Incomplete	(No point value)

## **CLOCK HOUR TO CREDIT CONVERSION**

Capstone College measures all programs based on the credit hour system.

For Purposes of Title IV Federal Financial Aid: Capstone College measures our programs for financial aid purpose in Quarter Credit Hours as follows:

Quarter Credit Hours definition: 1 Credit consists 25 hours of the total amount of time in which a student is engaged in academic activity, including Lecture, Laboratory/Supervised Instruction, and homework; that is a minimum of 25 hours to 1 quarter credit.

For Academic Award Purposes: 1 Quarter Credit Hour is awarded for every 10 Hours of Lecture; 20 Hours of Laboratory; 30 Hours of Internship/Externship.

A Clock Hour equals sixty (60) minutes of instruction with (10) minutes allowed for class break.

## **STANDARDS OF SATISFACTORY ACADEMIC PROGRESS**

For purposes of measuring Academic Progress, students must maintain a minimum of a 2.0 grade point average throughout the entire enrollment period. Academic progress is verified at the completion of course module (level) within the educational program but no less often than fifteen (15) weeks.

At the midpoint of the program, measured by scheduled hours, the student must have completed a minimum of eighty (80) per cent of the scheduled hours and achieve a 2.0 grade point average. If a student does not meet the requirements at midpoint, financial aid will be suspended, and the student will be placed on a sixty (60) day probation period. Upon attainment of satisfactory progress, financial aid eligibility will be reinstated. Failure to achieve the minimum requirement at the end of the sixty (60) day period will result in termination by the education department.

### **PROBATION, TERMINATION AND REINSTATEMENT:**

Academic and Attendance Probation: Students who fall below the minimum requirement of a 2.0 grade point average are placed on Academic Probation. Students with less than 80% of the scheduled attendance are placed on Attendance Probation. The probation period is for sixty (60) days in which students are expected to demonstrate improvement towards meeting the minimum requirements. Failure to make improvement and meet the minimum progress requirements by the next scheduled progress verification point will result in dismissal.

Termination: A student will be terminated, if at the end of a probationary period, the student has not corrected all progress deficiencies. A student may also be terminated for violation or noncompliance of school policy.

Reinstatement and Appeal Process: A student may request reinstatement by requesting re-enrollment. Re-enrollment may be granted at the discretion of the School Director. For students who are terminated as a result of failure to meet satisfactory progress or attendance policy, may request reinstatement. However, if reinstatement is granted, the student will be placed on probation for a period of sixty days and will be expected to comply with the minimum requirement of completing ninety percent of the total hours by the end of the probation period.

## **TRANSFER OF CREDIT POLICY and PROCEDURE**

Advanced placement/transfer of credit may be requested and awarded up to a maximum of one-third of the total program credit hours based on the following policy:

1. Transfer credits for classes from another institution must have a minimal grade of B or 80%.
2. Transfer credit must be from a class that;
  - a) Is in an equivalent discipline;
  - b) Consists of a minimum of 80% of the hours as the corresponding class offered at Capstone College;
  - c) The coursework was completed at an accredited postsecondary institution; and
  - d) An official catalog and transcript from the transferring institution is required for evaluation of the content for transfer.



3. Credit based on life experience/knowledge must be earned by a grade of B or 80% on a Capstone administered exam, which will be the same as the final exam or series of tests administered for the challenged class.
4. Tuition and fees will be adjusted on a pro rata basis per credit hour transferred.
5. Any adjustments in credit hours or weeks may impact financial aid eligibility as determined by Title IV regulations.
6. The transferability of credit is dependent on the receiving institution. Therefore, Capstone cannot guarantee that other schools will accept credits completed at Capstone for transfer. However, Capstone will assist students when requesting transfer to other institutions by providing guidance or counseling and providing an official transcript, catalog and course outlines.
7. Appeal process for denial of transfer of credit: A student may appeal the denial by writing a letter to the School Director. Director will meet with the appropriate faculty and the registrar to review the student's documentation submitted to support transfer of credit. The student shall be notified within 48 hours of the school's decision.
8. Capstone College has not entered into an articulation or transfer agreement with any other college or university.

#### **NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION**

The transferability of credits you earn at Capstone is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the credits or certificate you earn in any of our programs is also at the complete discretion of the institution to which you may seek to transfer. If the credits or certificate that you earn at this institution is not accepted at the institution to which you seek to transfer, you may be required to repeat some or all your coursework at that institution. For this reason, you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Capstone to determine if your credits or certificate will transfer.

Decisions to accept credits from another educational institution rest entirely with each receiving institution and are usually accessed and considered on a case by case, course by course basis. Capstone, while fully accredited, does not currently possess the same types of accreditation as most four-year colleges and universities offering associate, baccalaureate, and beyond, programs and degrees. Prospective students of Capstone will need to consider this if they plan to continue their academic credentials.

## MAXIMUM TIME FRAME

### Maximum Time Frame Schedule:

Maximum time frame is calculated based on an academic year of 36 quarter units. Students must satisfactorily complete 18 for every 27 units attempted for a maximum time frame of 150%. The minimum passing grade is 70% or C. Maximum time frame is measured on a course-by-course basis.

### Electrician 66.4 Units

Course Title	Length In Units	Maximum Time Frame
Electrician Training 1	11.0	16.5
Electrician Training 2	9.9	14.8
Electrician Training 3	9.9	14.8
Electrician Training 4	12.6	18.9
Electrician Training 5	11.5	17.2
Electrician Training 6	11.5	17.2
<b>TOTAL</b>	<b>66.4</b>	<b>99.4</b>

### HVAC Technician

Course Title	Length In Units	Maximum Time Frame
HVAC Trade Orientation, Human Relations, Safety First Aid, Construction Math	9.25	13.8
HVAC Air Conditioning and Heating Fundamentals	7.25	10.8
HVAC Tools, Materials and Supplies	7.25	10.8
EPA Refrigerant Certification, HVAC Systems Lab	7.5	11.2
HVAC Theory	7.5	11.2
HVAC Electrical, HVAC Schematics, National and Local Codes	7.5	11.2
Brazing & Soldering, HVAC Sheet Metal Installation	6.5	9.7
Refrigerants, & Charging Techniques	3.75	5.6
<b>TOTAL</b>	<b>56.5</b>	<b>84.3</b>

### INCOMPLETE COURSES

The Instructor shall record an "Incomplete" grade whenever the student misses an examination, test, or any other element required in the course necessary for the full evaluation of the student's progress. The completion of the missing element, within five (5) days of the last class of the course, will result in the replacement of the "I" grade with a letter grade. If the missing element has not been completed at the conclusion of that time, an "F" will be recorded automatically for the affected subject. Exceptions to this rule may be made by the School Director or Director of Education due to documented extenuating circumstances. An Incomplete grade will stand, in lieu of the F, for those who did not complete a class due to an approved Leave of Absence.

## **LEAVE OF ABSENCE (LOA)**

A leave of absence may be granted based on the following policy and procedures:

1. A student must request the leave of absence in writing in advance of the beginning date of the leave of absence, unless unforeseen circumstances prevent the student from doing so. If a student does not request a leave of absence within a timeframe consistent with the institution's consecutive absence policy, he or she must be withdrawn.
2. The leave of absence is limited to 180 calendar days in one calendar year, or one-half the published program length, whichever is shorter. Multiple leaves of absence may be permitted provided the total of the leaves does not exceed this limit.
3. The student must sign the leave of absence request and specify a reason for the leave in order for the institution to have a reasonable expectation of the student's return within the timeframe of the leave of absence as requested.
4. The student must attest to understanding the procedures and implications for returning to his/her course of study.
5. The institution will document approval of the leave of absence request in accordance with this policy.
6. The institution will not assess the student any additional charges as a result of the leave of absence.
7. An approved leave of absence may be extended for an additional period of time provided that the extension request meets all the above requirements, and the total length of the leave of absence does not exceed the specified limit, as noted in item 2.

Subsequent LOAs will only be granted for jury duty, military reasons, work conflict or circumstances covered under the Family and Medical Leave Act of 1993 (FMLA) (Public Law 103-3) enacted February 5, 1993. Students who are on probation when beginning a LOA will re-enter under the same probationary conditions as when they left their program. Regardless of the number of leaves granted, in no case may the total LOA time exceed the maximum length described above.

A leave of absence may require adjustment of financial aid and revision of the graduation date.

## **REPETITION OF COURSEWORK**

Students who have received "D" or "F" grades in a subject may repeat the work within the maximum time frame permitted, and if a higher grade is attained the second time, the improved result will be recorded; both grades will be averaged in the GPA.

## **APPEALS**

Any student placed on probation can file an appeal with the School Director. The School Director may require that the appeal be in writing and that it be supported by documentation setting out the facts on which the appeal is based. Under special circumstances, the School Director may grant one additional probation period to the student. The Director's decision is final.

## **STUDENT CONDUCT POLICY**

All students have the right to a training environment conducive to learning job skills. Unfavorable conduct will result in disciplinary probation, suspension, or termination. Capstone College reserves the right to dismiss any student whose conduct, poor attendance, or scholastic performance is judged by the Director to reflect unfavorably upon the Institution, staff and other students.

## **MODIFICATION OF COURSES**

As demands of the job market change, course changes are necessary to keep pace with changes. Capstone reserves the right to make course modifications when such action is desirable. Book and supply substitutions may be made as required without prior notice. Curriculum may vary somewhat for each individual.

## **PROGRAM OR CLASS CHANGE**

The Institution recognizes that student's circumstances may change over time. While program and class changes are generally discouraged, they may be possible upon the approval of the Director of Education. All changes must be requested and approved in writing.

## **TUITION POLICY**

Total tuition and fees for a program are due and payable upon starting classes for the specified term or enrollment period. The following methods of payments are accepted, Cash, Check, Money Order, Credit and/or Debit Card. Arrangements will be made for students to make payments according to a schedule acceptable to the student and the school. The specific payment schedule will be clearly delineated on the individual student's enrollment agreement or an attachment thereto. Capstone College will accept the standard payment schedule for a student receiving Federal Financial Aid as long as such student remains in good standing. Out-of-school students seriously delinquent and unresponsive to requests for payment may be turned over to an agency for collection.

## **FINANCIAL AID**

### **Opportunities and Requirements for Financial Aid**

Capstone College does not provide financial assistance to students. However, the school is approved by the Department of Education to participate in the Federal Student Aid-Title IV programs. Loans and grants are available to eligible students. Financial Aid Staff is available to assist student applicants to determine eligibility. If a student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If the student has received federal student financial aid funds, the student is entitled to a refund of the money not paid from federal student financial aid program funds.

If you are eligible for a loan guaranteed by the federal or state government and you default on the loan, both of the following may occur:

- The federal or state government or a loan guarantee agency may take action against you, including applying any income tax refund to which you are entitled to reduce the balance owed on the loan.
- You may not be eligible for any other federal student financial aid at another institution or other government assistance until the loan is repaid.

**The school does not participate in State Financial Aid Programs.**

## **WITHDRAWAL**

A withdrawal shall be assumed if a student has failed to attend classes for a two-week period. The date of the student's withdrawal shall be deemed the last date of recorded attendance. If a student finds it necessary to withdraw, it is in his/her best interest to notify the School in writing, as soon as possible. Any incomplete coursework will be assigned an "I" for incomplete. An official withdrawal will be processed within the allotted time, a refund calculation will be performed and a refund, if any, will be processed following the school's stated refund policy and provisions. A withdrawal may be effectuated by the student's written notice, or by the student's conduct, including but not necessarily limited to, a student's lack of attendance.

## **BUYER'S RIGHT TO CANCEL AND REFUND POLICY**

The student has a right to cancel the enrollment agreement and obtain a refund of charges paid through attendance at the first-class session, or the seventh day after enrollment, whichever is later. If the student's tuition is sponsored through outside sources or programs, the refund will be sent to the sponsoring agency. If the student has received federal student financial aid funds, the student is entitled to a refund of moneys not paid from federal student financial aid program funds. For self-paying students, the refund will be sent to the student. A request to cancel or withdraw from the school must be in writing to the Registrar.

Refunds for Students Who Withdraw On or Before the First Day of Class:

If tuition and fees are collected in advance of the start date of classes and the student does not begin classes or withdraws on the first day of classes, no more than \$100 of the tuition and fees may be retained by the institution.

## **REFUND CALCULATION:**

The school calculates refunds following the State of California requirements. For students receiving Title IV financial aid, an additional refund calculation, following the U.S. Department of Education Return of Title IV Aid requirements, is performed. The one that provides the highest refund amount is utilized.

### **California Refund Policy**

The refund policy pursuant to section 94919(c) of the State of California Code states that the institution shall provide a pro

rata refund of nonfederal student financial aid moneys paid for institutional charges to students who have completed 60 percent or less of the period of attendance. It covers the entire enrollment period. It is calculated as follows:

- (1) The number of days the student attended, or was scheduled to attend, prior to withdrawal divided by the number of days in the program.
- (2) Except as provided for in section 3, all amounts paid by the student in excess of what is owed as calculated in section 1 shall be refunded to the student within 45 days from the date of completion of, or withdrawal from, the educational program in which the student was enrolled.
- (3) Except for the STRF assessment, a \$100 registration fee, and any unused books, supplies, or equipment returned within 10 business days of the withdrawal, all amounts that the student has paid shall be subject to refund. Books, supplies, or equipment, if unused and in original sealed packaging can be returned for credit of the amount charged by the institution.

### **Return of Title IV Funds Policy**

The Higher Education Amendment of 1998 required schools to implement The Return of Title IV Refund Funds policy when a Title IV funds recipient withdraws from school. A Title IV recipient is defined as a student who has received Title IV funds (including Federal PLUS loan funds) OR has met the conditions that entitle the student to a late disbursement. The Amendment makes clear that Title IV funds are awarded to students with the assumption that he/she will attend school for the entire payment period. (The payment period is equal to one half of the total hours in the program.) If a student receiving assistance completely withdraws from school or ceases to attend classes, the Financial Aid Office is required to calculate the amount of funds the student earned prior to their withdrawal and calculate the amount that was unearned and must be returned to reimburse the appropriate Title IV programs. After the 60% point, the student is deemed to have earned 100% of the Title IV funds.

The withdrawal date is used to determine the point in time that the student withdrew or ceased to attend so that the percentage of the payment period completed can be determined. A student's withdrawal date will vary depending on the type of withdrawal. If a student officially withdraws, the date the institution would use would be the day the student started the withdrawal process or notifies their intent to withdraw whichever is earlier. However, the school may choose to use an earlier last date of attendance at an academically related activity as the student's withdrawal date. If a student does not notify the institution that he/she has withdrawn, the date that the student withdrew would be the date the institution became aware that the student ceased to attend classes. Students can officially withdraw by filling out a withdrawal notice and submitting it to the school Registrar.

The percentage of Title IV aid earned is equal to the percentage of the payment period the student completed. In cases in which funds must be returned, the school will reimburse the Title IV programs in the following order: Unsubsidized Stafford Student Loan, Subsidized Stafford Loan, Parent Loan (PLUS), Pell Grant, SEOG Grant. Students will be billed for any unpaid institutional charges that result from the return of funds to the Title IV programs. In addition, the student may be required to directly repay a portion of the Title IV funds that were received. In such cases, the Financial Aid Office will notify the student the amount that must be repaid, the federal aid program that must be repaid, and the date the repayment is due.

Any repayment outstanding or unpaid will be referred to the U.S. Department of Education for collection and legal disposition. In addition, a financial obligation will be placed on the student's account by the institution, which will prohibit the student from registering in future semesters, receiving academic transcripts, or receiving any additional federal aid funds. In some cases, a student may be eligible to receive a "post-withdrawal" disbursement after the student completely withdraws from school when the amount of aid earned is less than the amount of aid disbursed. In such cases, the Financial Aid Office will notify the student of the "post-withdrawal" disbursement via an award letter. The award letter must be returned to the Financial Aid Office before the date specified on the letter or the "post-withdrawal" disbursement will be cancelled.

### **Time Frame for the Return of Title IV Program Funds:**

1. The college will return any unearned Title IV funds it is responsible for returning within 45 days of the date the college determined the student withdrew and offer any Post-withdrawal disbursement of loan funds within 30 days of that date.

2. The college will disburse any Title IV grant funds a student is due as part of a Post-withdrawal disbursement within 45 days of the date the college determined the student withdrew and disburse any loan funds a student accepts within 180 days of that date.

Earned aid is not related in any way to institutional charges. The school's refund policy and Return of Title IV Funds procedures are independent of one another. A student who withdraws from a course may be required to return unearned aid and still owe the school for the course.

**OTHER REFUND PROVISIONS:**

**i. Rejection of Applicant:**

If an applicant is rejected for enrollment by an institution, a full refund of all tuition monies paid will be made to the applicant.

**ii. Program Cancellation:**

If an institution cancels a program subsequent to a student's enrollment, the institution will refund all monies paid by the student.

**iii. Cancellation Prior to the Start of Class or No Show:**

If an applicant accepted by the institution cancels prior to the start of scheduled classes or never attends class (no-show), the institution will refund all monies paid, less a maximum application/registration fee of \$100, if such charges are clearly noted in the enrollment agreement as being non-refundable.

**iv. Cancellation After the First Day of Class:**

Except for the STRF assessment, a \$100 registration fee, and any unused books, supplies, or equipment returned within 10 business days of the withdrawal, all amounts that the student has paid shall be subject to refund. Books, supplies, or equipment, if unused and in original sealed packaging can be returned for credit of the amount charged by the institution.

**Reimbursement to Veterans and Eligible Persons for VA Benefits**

The Department of Veterans Affairs will pay the school tuition and fees directly to the school and student's expenses directly to the student. The amount and terms are determined by the DVA. For information or for resolution of specific payment problems, the veteran should call the DVA nationwide toll-free number at 888-442-4551.

**Tuition Assistance Policies**

Capstone College has a policy that returns any unearned tuition assistance (TA) funds on a proportional basis through at least the 60% portion of the period for which the funds were provided to the military Service Branch. The Unearned TA Policy is to refund a prorated share of the tuition up to the 60% of time completed. The calculation is based on the number of class days the student is scheduled to attend divided by the number of class days in the program. For example, the day HVAC class is 30 weeks meeting 5 days per week for a total of 150 class sessions. The 60% point is the 90<sup>th</sup> class. The day Electrician class is 36 weeks meeting 5 days per week for a total of 180 class sessions. The 60% point is the 108<sup>th</sup> class.

**STUDENT TUITION RECOVERY FUND (STRF)**

**76215. Student Tuition Recovery Fund Disclosures**

(a) A qualifying institution shall include the following statement on both its enrollment agreement and school catalog:

"The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.”

(b) In addition to the statement required under subdivision (a) of this section, a qualifying institution shall include the following statement in its school catalog:

“It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or are enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.
2. You were enrolled at an institution or a location of the institution within the 120-day period before the closure of the institution or location of the institution or were enrolled in an educational program within the 120-day period before the program was discontinued.
3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.
4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.
5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.
6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.
7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of non-collection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.”

Capstone College does not have a pending petition in bankruptcy, is not operating as a debtor in possession, and has not filed a petition within the preceding five years, nor has had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 USC Sec 1101 et seq).

## STUDENT LOAN OMBUDSMAN

All student loan recipients may access the Student Loan Ombudsman

By Telephone: 1-877-557-2575

By Fax: 1-606-3483977

By Internet: <https://studentaid.gov/help-center/answers/article/how-to-contact-ombudsman-group>

By Mail: U.S. Department of Education  
Federal Student Aid Information Center  
P.O. Box 1854  
Monticello, KY 42633



## **RULES AND REGULATIONS**

### **ALCOHOL AND DRUGS**

No drug or alcohol use is permitted in class, on the school grounds, or at Capstone College events. Being under the influence in class or on school grounds will result in your suspension or expulsion.

### **POLICY ON DRUGS AND ALCOHOL**

**IT IS OUR POLICY TO OFFER TO OUR STUDENTS A DRUG AND ALCOHOL-FREE ENVIRONMENT. OUR DRUG AWARENESS PROGRAM IS AVAILABLE TO STUDENTS THROUGH THE FINANCIAL AID OFFICE.**

### **OUR REGULATIONS**

No alcohol possession, consumption, and/or sale will be tolerated on the school premises and/or at any sponsored function off-campus. Any student believed to be intoxicated on the school premises or at a sponsored event off-campus must leave the premises when the discovery is made. The student must meet the next class day with the Director to face disciplinary action. Such action may include dismissal of the student or disciplinary probation. The finding of the Director will become part of a student's permanent file.

The use of any non-prescription drug that is a "controlled substance" (including, but not limited to: marijuana, cocaine, stimulants, and/or depressants) will not be tolerated on the Capstone College premises or at any school sponsored function. Any student believed to be under the influence and/or in possession of a non-prescribed "controlled substance" will be suspended immediately, pending investigation of the incident.

Should it be determined that a student was under the influence or in possession, and/or involved in the purchase or sale of such while on the premises he will be dismissed. Beyond the control of Capstone College, criminal charges may additionally be filed which could negatively affect one's career goals as well. Should it be determined that the student was not involved in the above activity, he/she will be reinstated, and lost class time will be added to the normal completion time. Students are responsible for the use of drugs prescribed for them.

### **VOTER REGISTRATION**

Recent changes in the Higher Education Act require colleges and universities to make voter registration information available to all enrolled students. Any Capstone College student not currently registered to vote may obtain more information, as well as appropriate materials and forms, from the Registrar. Additionally, Voter Registration Forms are available through the California Secretary of State's website.

## **SCHOOL SERVICES & GENERAL INFORMATION**

### **PLACEMENT ASSISTANCE**

Capstone College assists graduates in obtaining employment upon the successful completion of the proposed program including payment of all outstanding tuition and fees. The school's Placement Advisor conducts an active search in the labor market and strives to identify vacancies for which qualified graduates may interview. However, the School does not in any way guarantee employment, and the student must assume final responsibility for securing a job.

### **HOUSING ASSISTANCE**

Capstone College does not provide nor assumes responsibility for student housing and does not maintain any dormitories facilities under its control. No housing assistance is provided through the college.

According to City-Data.com, rental properties in the Pasadena California area are approximately \$1,321 to \$2,000 per month with a medium rent of \$1,758. More information can be obtained at <http://www.city-data.com/housing/houses-Pasadena-California.html>.

## **UPDATE OF PERSONAL INFORMATION**

Students must notify the Office of any changes in their personal information on file with the school. This would include changes of name, address, telephone number, employment information and emergency contact person.

## **CHILD CARE**

Capstone College is not equipped or staffed to provide childcare services. Students are not allowed to bring children into the classroom.

## **ADVISING**

Academic advising may be arranged with an instructor or the Director of Education. All financial advising is to be arranged with the Financial Aid Office. The entire Capstone College staff cares about the well-being of all the students and is available individually to talk to students. Psychological, marital, legal, or other advising should be discussed with professionals outside the school. Capstone College cooperates with local law enforcement agencies in providing educational material to students, regarding health risks associated with drugs and alcohol.

## **PARKING**

Students may park in any space in the designated parking areas. Capstone College is not responsible for any theft, vandalism, or damage to your vehicle while parked in the student parking lot or adjacent areas.

## **BEHAVIOR IN CLASS**

Loudness, rudeness, or disruption while a class is in progress will result in your being suspended or expelled. You are free to stand up, stretch, or move about when necessary, but not to talk to, or otherwise interfere with, the other students in the room.

## **SMOKING**

No smoking is allowed in the classrooms, offices, or in the lunchroom. Smoking is allowed in outside and in designated areas only.

## **STUDENT RESPONSIBILITY POLICY**

Each student is held responsible for compliance with the regulations contained in this catalog and other policies and/or regulations as they are published from time to time. Failure to read these regulations does not relieve the student from liability.

## **CONSTITUTION DAY**

Each year on September 17<sup>th</sup>, Capstone College celebrates Constitution Day commemorating the signing of the United States Constitution. The school distributes educational materials to all students. Constitution Day commemorates the formation and signing of the U.S. Constitution by thirty-nine brave men on September 17, 1787, recognizing all who are born in the U.S. or who by naturalization have become citizens.

## **DRESS CODE**

You must always wear shoes. Gentlemen must wear pants and shirts, slacks, or skirts for the ladies. No tank tops, tube tops, or halter tops.

## **COPYRIGHT INFRINGEMENT**

The school has strict policies for students on copyright infringement such as textbooks, curriculum materials, and restricted and authorized items on the internet. Student use of school resources are limited to supervised use of copy machine and computers. Students may face civil/criminal liability for such copyright infringement and/or unauthorized use/distribution of materials.

## EMERGENCY PROCEDURES

An emergency should be reported to the office as soon as it is reasonably possible. No student is to assist in a medical emergency unless they have training that will allow for a proper response. The obvious exception to this is when life-threatening conditions exist and then the action of a prudent person should be exercised. A very high degree of personal liability exists when proper medical emergency procedures are not followed.

In the case of a fire, all students are to evacuate the building immediately. If an earthquake should occur, it may be wise to take shelter under a desk or in a doorway until all movement has ceased and it appears to be safe to exit the building. Each student is to complete a Confidential Questionnaire indicating a name and telephone number to contact in the event of illness or injury. Any student with a chronic, health related condition should so note on that form. All information received is maintained in the strictest confidence.

## BUREAU DISCLOSURES STUDENT RIGHTS

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the **Bureau for Private Postsecondary Education at 1747 N. Market St. Suite 225, Sacramento, CA 95834, [www.bppe.ca.gov](http://www.bppe.ca.gov), toll-free telephone number (888) 370-7589 or by fax (916) 263-1897.**

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 toll-free or by completing a complaint form, which can be obtained on the bureau's internet web site [www.bppe.ca.gov](http://www.bppe.ca.gov).

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

The school does not have a pending petition in bankruptcy, is not operating as a debtor in possession, has not filed a petition within the preceding five years, or has had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 U.S.C. Sec. 1101 et seq.).

## GRIEVANCE/COMPLAINT PROCEDURE

Persons seeking to resolve problems or complaints should first contact the instructor in charge. Requests for further action may be made to the school Director, Lou Rodriguez. If the student is still dissatisfied, written appeal may be made to the Director.

A student may file a complaint about this institution with the Bureau for Private Postsecondary Education at any time by contacting them directly below:

### **Bureau for Private Postsecondary Education**

1747 N. Market St. Suite 225  
Sacramento, CA 95834  
(916) 574-8900

OR

### **Accrediting Council for Continuing Education and Training**

1722 N Street, NW  
Washington, DC 20036  
(202) 955-1113

## **STUDENT RECORDS AND RIGHT OF PRIVACY**

The Federal Right of Privacy enables all students to review their academic records, including grades, attendance, and counseling reports. Student records are confidential and only such agencies or individuals authorized by law are allowed access without written permission of the student. State law requires the school to maintain these records for a minimum of five years. In addition, transcripts are retained permanently. Students may request a review of their records by writing to the school registrar. All such reviews will be scheduled during regular school hours under appropriate supervision.

## **DISCLOSURE OF EDUCATION RECORDS-FERPA**

The school guarantees its students the right to access their records.

Pursuant to the Federal Family Educational Rights and Privacy Act of 1974, the California Education Code as amended in 1976, and the School Policies, the disclosure of student records applies in the following cases: if the student asks in person; upon their written authorization, or as required by law.

Education records are defined as files, materials and documents which contain information directly related to a student and are maintained by the institution.

Students may examine their academic or financial records upon requesting a scheduled appointment to do so. Students are not entitled to inspect the financial records of their parents.

Written consent is required before education records will be disclosed to third parties except for accrediting commissions or government agencies so authorized by law.

## **OPERATING SCHEDULE**

### **SCHOOL DAYS & CLASS HOURS**

The hours of operation: Monday through Thursday, from 7:30 a.m. to 10:00 p.m. and Friday, from 7:30 a.m. to 5:00 p.m.

**Day class schedule:** 7:30 a.m. - 12:30 p.m.

**Night class schedule:** 6:00 p.m. - 10:00 p.m.

The schedule of class start dates varies by program as all Capstone College courses are on a Modular system. Contact the school to obtain specific dates for class start.

## **OPERATING SCHEDULE**

### **HOLIDAYS**

The following 2022 holidays are observed:

NEW YEAR'S DAY

INDEPENDENCE DAY

MARTIN LUTHER KING JR. DAY

LABOR DAY

PRESIDENT'S DAY

THANKSGIVING DAY and that Friday

MEMORIAL DAY

CHRISTMAS DAY closed 2 weeks

Capstone College will be closed for Christmas vacation during December 19, 2022 – January 2, 2023. Classes will resume January 3, 2023. Special consideration is given to holidays of all religious beliefs. Please consult the Director for details. Special holidays or half-days may be scheduled by the Administration.

# **HVAC TECHNICIAN**

**CIP CODE: 47.0201 - O-Net Number: 49-9021.02**

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## **Program Description**

The HVAC Technician Program is designed to provide students with the knowledge, skills, work habits, and practical applications of HVAC/R systems required for entry-level employment in today's HVAC/R industry. The HVAC Technician program prepares students to efficiently perform and specialize in the installation, maintenance, and service of HVAC/R systems.

## **Program Mission and Objectives**

The mission and objective of the HVAC Technician Program is to provide students with training in heating, ventilation, air conditioning, and refrigeration systems. Instruction includes safety procedures for the use of tools and testing equipment, basic electricity, electrical components, theory and practical applications of heating, ventilation, air-conditioning, and refrigeration systems, sheet metal installation, schematics, brazing and soldering, maintenance and service, troubleshooting, repair and installation of HVAC/R systems. Students will receive the training for practical applications on the fundamental HVAC/R processes in a real-world hands-on laboratory environment using equipment that is current with industry to be able to efficiently perform the entry-level skills required in the HVAC/R labor market. Students are prepared to take the 608 EPA Certification. Although not, mandatory, EPA certification is strongly recommended.

## **Occupational Objectives**

Graduates of the HVAC Technician Program will be able to perform installation, service, repair of heating, air conditioning systems or refrigeration systems in residences or light commercial establishments. Graduates can obtain entry-level positions as HVAC Technician, HVAC Service Technician, HVAC/R Technician, HVAC/R Service Technician, HVAC Installers, HVAC Apprentices, HVAC Helpers, and Sheet Metal Workers and other related position according to O\*Net Online. There is a bright outlook for HVAC Technicians in today's job market according to O\*Net Online. Bright Outlook occupations are expected to grow rapidly in the next several years and will have large numbers of job openings. The Projected employment growth 2010-2020 for HVAC Technicians will much faster than average at 29%. The Standard Occupational Classifications for these job titles and other associated titled descriptions can be found in the U.S. Department of Labor's O\*Net S.O.C. #49-9021.011. According to O\*Net Online the sample of reported job titles include: Service Technician, Heating, Ventilation, Air Conditioning Service Technician (HVAC Service Technician), Heating, Ventilation, Air Conditioning Technician (HVAC Technician), Heating, Ventilation, Air Conditioning Installer (HVAC Installer), HVAC Specialist (Heating, Ventilation, and Air Conditioning Specialist), HVAC Technician (Heating, Ventilation, and Air Conditioning Technician), Air Conditioning Technician (AC Tech), Heating, Ventilation, Air Conditioning Mechanic (HVAC Mechanic), HVAC Installer (Heating, Ventilation, and Air Conditioning Installer), Mechanic.

## **Educational Requirements**

The HVAC Technician Program consists of a total of 750 clock hours and 56.5 units. The program is divided into 8 course modules. The program is 30 weeks during the day or 48 weeks during the evening. Students must complete all modules starting with any module and continuing until all modules are successfully completed. All theory and laboratory sessions are held at the school's campus located at 1200 N. Fair Oaks Ave., Pasadena, CA. Students who complete the program satisfactorily are awarded a Certificate as HVAC Technician.

## Course Outline and Course Description

Course No	Course(s) Title	Lecture Hours	Lab Hours	Total Hours	Quarter Credit Units
<b>Level I</b>	HVAC Trade Orientation, Human Relations, Safety First Aid, Construction Math	85	15	100	9.25
<b>Level II</b>	HVAC Air Conditioning and Heating Fundamentals	45	55	100	7.25
<b>Level III</b>	HVAC Tools, Materials and Supplies	45	55	100	7.25
<b>Level IV</b>	EPA Refrigerant Certification, HVAC Systems Lab	50	50	100	7.5
<b>Level V</b>	HVAC Theory	50	50	100	7.5
<b>Level VI</b>	HVAC Electrical, HVAC Schematics, National and Local Codes	50	50	100	7.5
<b>Level VII</b>	Brazing & Soldering, HVAC Sheet Metal Installation	30	70	100	6.5
<b>Level VIII</b>	Refrigerants, & Charging Techniques	25	25	50	3.75
				<b>750</b>	<b>56.5</b>

### **Level I**

#### **HVAC Trade Orientation**

Provides students with an introduction to the industry and the common aspects of HVAC/R technology. Students learn the occupational job titles, job outlook, job descriptions, duties and tasks, and work environment within the HVAC/R industry as well as career opportunities available to graduates.

#### **Human Relations**

Introduces students to development of customer service skills and positive communication techniques. Emphasis is on providing students with effective skills for developing professional interpersonal relationships and service attitudes.

#### **Safety and First Aid**

Examines OSHA regulations, CAL-OSHA and general industry standards. Selected interpretation of the standards pertaining to HVAC/R industry is accessed, overviewed, discussed, and compiled into student resource materials.

#### **Construction Math**

Provides students with the ability to thoroughly understand formulas, equations, areas, volume and other algebra and geometry math fundamentals.

### **Level II**

#### **HVAC- Air Conditioning and Heating Fundamentals**

Introduces students to the basic principles and applications of HVAC/R systems. Students learn the history and development of early refrigeration and air-conditioning. Students gain understanding refrigeration theory by learning temperature and pressure relationships, and principles of heat transfer. Students also learn the principles of heating systems utilized in industry. This course provides students with a complete review of heat transfer principles and an introduction to heating system configuration, design, and operation. Students learn to interpret control circuit diagrams and to identify and use the service instruments needed to troubleshoot heating systems.

### **Level III**

#### **HVAC Tools, Materials, and Supplies**

Study of the types and correct use of hand tools, test equipment, and supplies that are used in performing HVAC/R installation, service and repair. Students will build and equip their own personal tool kits with commonly used tools. Begin refrigeration theory by learning temperature and pressure relationships and principles of heat transfer.

**Level IV**

**EPA Refrigerant Certification**

Prepares students for the certification test and contains all the information required to successfully complete the Section 608 Refrigerant Certification Test.

**HVAC Systems Lab**

Provides students with a common understanding of the types of HVAC/R systems and the selection process for determining an enclosed environment's heating/cooling needs.

**Level V**

**HVAC Theory**

Provides students with an increasing understanding of HVAC/R theory in relationship to the five thermal laws of refrigeration and the operation of the refrigerating cycle.

**Level VI**

**HVAC Electrical**

Study of the principles of electricity as required by the HVAC/R industry, including the proper use of test equipment, electrical circuits, and component theory and operation. Student learn the installation and servicing techniques for wiring and connecting circuitry for HVAC/R systems and the various electrical components and wiring methods needed to wire HVAC/R equipment and meet national and local codes.

**HVAC Schematics**

A basic study of the essential elements of HVAC schematics used in industry. Students learn the ability to read and understand HVAC schematics and drawings. Several types of drawings and diagrams will be examined during this course; including Block, Pictorial, One-line, Wiring, Terminal, and Schematic. Individual component symbols will be presented along with an explanation of their function and purpose in the circuit. To facilitate learning and enable students to relate diagrams to actual equipment, students will see pictorial examples or photos of the components along with the description.

**HVAC National and Local Codes**

Provides students with a thorough knowledge of the national and local codes associated with the installation and service of HVAC/R equipment.

**Level VII**

**HVAC Brazing and Soldering**

Provides students with practical skill sets in brazing and soldering techniques to safely join metals and piping materials with accuracy and efficiency.

**HVAC Sheet Metal Installation**

Provides students with a practical knowledge of how to install or change existing ductwork for an efficient basic air distribution system. This course will focus on proper installation techniques of sheet metal related materials and supplies used in the HVAC industry. Also, students will learn the principles of venting, selecting and installing vent systems for gas-fired heating equipment.

**Level VIII**

**HVAC Refrigerants and Charging Techniques**

Provides students with a thorough knowledge of modern refrigerants, their use, and application in HVAC/R industry. This course will also expand the student's understanding of refrigerant usage and handling techniques to include proper refrigerant leveling methods used in a HVAC/R system after installation of parts to ensure proper system start-up and efficient refrigerant flow through the system.

## HVAC Technician Program Equipment and Supplies

Equipment	Tool and Supplies
1. Residential Split System	1. Brazing tanks and torch
2. Outdoor Condenser Units	2. Hammers
3. Gas Fired Furnace	3. Pipe Cutters
4. Refrigerators	4. Tube Benders
5. Portable Air Conditioning	5. Needle Nose Pliers
6. Heat Pump	6. Philip Screwdrivers
7. Evaporators Coil	7. Vacuum Pump
8. Water source Air handler	8. Recovery Cylinders
9. Walk in freezer model	9. Hand Seamers
10. Package Units	10. 12" Adjustable Wrench
11. Compressor test station	11. PVC Cutter
12. Mini Split Systems	12. Micron Gauge
13. 90% Forced Air Furnaces	13. Manometers
14. 80% Forced Air Furnaces	14. Multi-meters
15. Condensate Pumps	15. Digital Manifold
16. Beverage Cooler	16. Analog Manifold
17. Wall Furnace	17. Digital refrigerant scale
18. ECM Motors	18. Reciprocating saw
19. PSC motors	19. Swaging Tool
20. Three Phase Compressors	20. First Aid Kit
21. Belt Driven Motors	21. Sheet Metal
22. Reversing Valves	22. Copper Fittings
23. Economizer	23. Electrical Wire, lead
24. Control Zone System	24. Extension ladder
25. Spiral Duct System.	25. Nuts, Bolts, Screw
26. Residential Structure for Lab	26. Oxygen/ Acetylene/Gasses and Refrigerants



# ELECTRICIAN

CIP CODE: 46.0302 – O-Net Number: 47-2111.00

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## **Program Description**

The Electrician Program is designed to provide graduates with the necessary knowledge, technical skills and practical hands-on training to obtain entry-level employment in the electrical field as a residential, commercial or industrial electrician. Course work includes proper safety, trade mathematics, electrical theory, electrical codes, electrical blueprints, and the planning, layout and installation of electrical wiring, equipment and fixtures, based on job specifications according to National Electrical Codes. Also, the course work covers the basic concepts of Solar Photovoltaic (PV) systems and their components. The Electrical Technician program is designed to train students to efficiently perform and specialize in the installation, servicing and maintenance of systems within the commercial, industrial and residential electrical industry.

## **Program Mission and Objectives**

The mission and objective of the Electrician Program is to provide students with the education and technical skills training to perform the installation, servicing and maintenance of electrical systems in commercial, industrial and residential environments in accordance with the National Electrical Code. Instruction includes safety, trade mathematics, electrical theory, electrical codes, electrical blueprints, and the planning, layout and installation of electrical wiring, equipment, or fixtures, based on job specifications according to National Electrical Codes. Students will receive the training for practical applications on the basic electrical wiring and installation according to safety and electrical codes in a real-world hands-on laboratory environment using equipment that is current with industry to be able to efficiently perform the entry-level skills required in the Electrician labor market.

## **Occupational Objectives**

Graduates of the Electrician Program will be prepared with the necessary skills to work as apprentice electrician performing duties such as basic electrical wiring, connecting circuits and breakers, and install, maintain, and repair electrical wiring, equipment, and fixtures of commercial, industrial and residential electrical installations in accordance with the safety and National Electric Codes. Graduates can obtain entry-level positions as an Electrician, Electrical Apprentice, Electrician's Helper, Commercial Electrician Industrial Electrician and other related positions according to O\*Net Online.

There is a growing demand for Electricians in today's job market. According to the US Bureau of Labor Statistics, Employment of electricians is projected to grow 9 percent from 2016 to 2026, about as fast as the average for all occupations. Increases in construction spending and growing demand for alternative energy sources will drive demand for electricians. Alternative power generation, such as solar and wind, is an emerging field that should require more electricians for installation. Increasingly, electricians will be needed to link these alternative power sources to homes and power grids over the coming decade. Employment growth stemming from these sources, however, will largely be dependent on government policy. <https://www.bls.gov/ooh/construction-and-extraction/electricians.htm#tab-6>

The State of California EDD/LMID, Projections of Employment by Occupation, the number of Electricians is expected to grow much faster than average growth rate for all occupations. Jobs for Electricians are expected to increase by 32.5 percent, or 19,000 jobs between 2014 and 2024.

Further, The Employment Development Department, lists Electricians ranking high on the list of the fastest growing occupations (32.5%) in California 2014-2024. <http://www.labormarketinfo.edd.ca.gov/OccGuides/FastGrowingOcc.aspx>

In Los Angeles County, the number of Electricians is expected to grow much faster than average growth rate for all occupations. Jobs for Electricians are expected to increase by 21.5 percent, or 1,880 jobs between 2014 and 2024.

### **Educational Requirements**

The Electrician Program consists of a total of 792 clock hours and 66.4 units. The program is divided into 6 course modules. The program is 36 weeks during the day or 52 weeks during the evening. Students must complete all modules starting with any module and continuing until all modules are successfully completed. All theory and laboratory sessions are held at the school's location at 1200 N. Fair Oaks Ave., Pasadena, CA. Students who complete the program satisfactorily and graduate are awarded a Certificate as Electrician.

<b>Course No</b>	<b>Course(s) Title</b>	<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Total Hours</b>	<b>Quarter Credit Units</b>
<b>ET 101</b>	Electrician Training 1	88	44	132	11.0
<b>ET 102</b>	Electrician Training 2	66	66	132	9.9
<b>ET 103</b>	Electrician Training 3	66	66	132	9.9
<b>ET 104</b>	Electrician Training 4	121	11	132	12.6
<b>ET 105</b>	Electrician Training 5	99	33	132	11.5
<b>ET 106</b>	Electrician Training 6	99	33	132	11.5
				<b>792</b>	<b>66.4</b>

#### **ET 101 Electrician Training I**

This course provides an orientation to the electrical trade and introduces students to basic construction skills including proper safety, proper use of hand tools and power tools, and rigging. Students will receive instruction on handling construction materials, basic skills in drawing and reading blueprints, and working in confined spaces. In addition, students review basic mathematics, communication skills, and job readiness skills. The course provides students with electrical theory, introduction to the National Electric Code, and introduction to electrical circuits. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

#### **ET 102 Electrician Training 2**

This course introduces students to fundamental electrical theories, knowledge and skills including grounding, conduit bending, boxes and fittings, and conductor and cable installations. The course provides students with basic electrical drawings, residential electrical services, electrical test equipment, alternating current, and motor theory and applications. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

#### **ET 103 Electrician Training 3**

Students will be instructed in electrical lighting, conduit bending, pull and junction boxes, conductor installation, cable tray, conductor terminations and splices, grounding and bonding, and circuit breakers and fuses. The course provides students with electrical control systems and fundamental concepts. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

**ET 104 Electrician Training 4**

Students will be instructed in electrical load calculations including branch and feeder circuits, conductor selection and calculations, practical applications of lighting, hazardous locations, and overcurrent protection. The course provides students with electrical distribution equipment, transformers, and commercial electrical services. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

**ET 105 Electrician Training 5**

Students will be instructed in motor calculations, motor controls, voice, data and video, electrical load calculations including feeders and services, health care facilities, standby and emergency services, basic electronic theory, and fire alarm systems. The course provides students with HVAC electrical controls. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

**ET 106 Electrician Training 6**

Students will be instructed in specialty transformers, advance controls, motor operation and maintenance, medium voltage termination, special locations, and fundamentals of crew leadership. This course introduces students to the basic concepts of Solar Photovoltaic (PV) systems and their components in addition to general sizing and electrical/mechanical design requirements for installation of an efficient PV system. Students will apply all classroom theory in a hands-on laboratory setting under the supervision of the instructor.

### Electrician Program Equipment and Supplies

Equipment	Tools and Supplies
1. Meter enclosures	1. Tool pouches with basic electricians' hand tools.
2. Two-pole circuit breakers	2. Conduit hand benders.
3. Three-pole circuit breakers	3. Fish tapes.
4. 15 A duplex receptacles	4. Drill motors.
5. 20 A duplex receptacles	5. Clamp-on ammeter.
6. Motor control boards	6. Tripod pipe vise.
7. Single-phase motors	7. No-Contact voltage tester.
8. Three-phase motors	8. ½" EMT.
9. Boards with nine outlet boxes	9. ¾" EMT.
10. Workstations	10. 1" EMT.
11. Ladders	11. ½" Flexible metallic conduit.
12. 3 wire, 120/208 200 A Main Panel (x1)	12. 12 AWG THHN wire.
13. 3 wire, 120/208 125 A Sub Panel (x2)	13. 14 AWG THHN wire.
14. 4 wire, 120/208 60 A Sub Panel (x16)	14. Type MC cable 12/2 w/ ground.
15. Dry Type Transformer	15. Type MC cable 12/3 w/ ground.
16. Residential structure for lab	16. Type NM cable 12/2 w/ ground.
17. Commercial structure for lab	17. Type NM cable 14/3 w/ ground.
18. Motor starters	18. Various size plastic outlet boxes.
19. Start-stop push buttons	19. Various size metal outlet boxes.
20. Fire alarm control panel	20. Strapping material for Type MC cable.
21. Safety disconnect switch	21. Type NM staples.
22. Single pole switch	22. EMT Connectors and Couplings.

## TUITION AND FEES

<b>HVAC Technician</b>		
Tuition:	\$ 15,700.00	(Includes books & supplies, EPA Certification)
Registration Fee:	\$ 100.00	Non-refundable
STRF	\$ 40.00	STRF is charged by the State of California
<b>TOTAL COST</b>	<b>\$ 15,840.00</b>	Does not include tools.
Fees do not include tools.		

<b>ELECTRICIAN</b>		
Tuition:	\$ 15,700.00	(Includes books & supplies)
Registration Fee:	\$ 100.00	Non-refundable
STRF	\$ 40.00	STRF is charged by the State of California
<b>TOTAL COST</b>	<b>\$ 15,840.00</b>	Does not include tools.
Fees do not include tools.		