

# CTE Program Narrative

**NAME OF COLLEGE:** San Joaquin Delta College

**CONTACT:** Sharon Daegling, Curriculum Support Coordinator

**PHONE NUMBER:** (209) 954-5867

**EMAIL ADDRESS:** [sdaegling@deltacollege.edu](mailto:sdaegling@deltacollege.edu)

**DATE:** 4/20/2016

**DIVISION:** Applied Science, Business, and Technology

**FACULTY:** David Thomas

**PROGRAM NAME:** Electrical Technology

**REASON FOR APPROVAL REQUEST (Check One):**

- New Program Proposal
- Program Revision Proposal (Substantial or TOP Code Changes)
- Locally Approved

**TYPE OF DEGREE:**

- Certificate of Achievement
- Associate of Arts
- Associate of Science
- Associate of Arts for Transfer
- Associate of Science for Transfer
- Other

**TRANSFER APPLICABILITY:** Yes  No

**ATTACHMENTS/INFORMATION REQUIRED:**

Labor/Job Market Data and Analysis  
Advisory Committee Meeting Minutes  
List of Advisory Committee Members  
Employer Survey, if applicable

## 1. Statement of Program Goals and Objectives

*Identify the goals and objectives of the program. For CTE programs, the statement must include the main competencies students will have achieved that are required for a specific occupation. The statement must, at a minimum, clearly indicate the specific occupations or fields the program will prepare students to enter and the basic occupational competencies students will acquire.*

*If the program is selective, describe relevant entry criteria and the selection process for admission to the program. Specify all mandatory fees that students will incur for the program aside from the ordinary course enrollment fee.*

Program goals and objectives have been established based on regional industry and the State of California's industry criteria for skills and knowledge necessary in order to become a Certified Journeyman Electrician and preparing to enter management in the electrical industry. The completion of the coursework fulfills the required courses by the State of California in order to complete the General Electrician Trainee coursework as a career pathway to becoming a Journeyman General Electrician in residential, commercial, and industrial construction and maintenance of electrical systems. The Associate in Science degree has been endorsed by local industry advisory board members as necessary for the region that are preparing to enter management positions in the electrical industry and in order to comply with State of California laws and demand for a regional workforce.

## 2. Catalog Description

*Enter exactly as it will appear in the catalog, including program outcomes. The description must also*

- *Convey the certificate's goal(s) and objectives*
- *Provide an overview of the knowledge and skills that students who complete the requirements must demonstrate (student learning outcomes)*
- *List all prerequisite skills or enrollment limitations*
- *Mention any risks, such as occupations that are inherently competitive or low-salaried and/or occupational areas where inexperienced graduates are not generally hired.*
- *For CTE programs, the description must list the potential careers students may enter upon completion.*
- *Convey what the student may expect as an outcome*

*If applicable, reference accrediting and/or licensing standards. If there is a widely recognized certification provided by a professional association, specify whether the program will fully prepare completers for the recognized professional certification.*

Upon successful completion of the Electrical Technology - General Electrician track of the Associate of Science program, the student demonstrates knowledge and skills of the electrical industry in the capacity of a beginning electrician, preferably as an indentured electrical apprentice where the students compare, contrast, and apply basic electrical theory and other major portions of the electrical field. Training and skills demonstrated by the student in this program are crucial to safe entry into electrical apprenticeships and trainee positions in the electrical field. This program aligns with the required courses by the State of California in order to complete the General Electrician Trainee coursework as a career pathway to becoming a Journeyman General Electrician. The general education coursework will build on additional skills and knowledge such as written and oral communication that may lead to positions as an electrical contractor or manager in the electrical

industry.

Program Outcomes:

1. Upon successful completion of the Electrical Technology Associate in Science degree, the student demonstrate the knowledge and skills to be effective team members possessing excellent oral and written communication skills, and assuming technical and managerial leadership roles throughout their career.
2. Upon successful completion of the Electrical Technology Associate in Science degree, the student demonstrates the knowledge of safety practices required for installations and repairs of electrical wiring.
3. Upon successful completion of the Electrical Technology Associate in Science degree, the student demonstrates the skills, knowledge, and training for employment as an entry-level Electrician or Electrical Technician. The student demonstrates the understanding of electrical theory, AC/DC circuits, safety, code requirements, and components that make up the electrical distribution system.

### 3. Program Requirements

*The program requirements must be consistent with the catalog description. The number of units, specific course requirements and the sequence of the courses must be coherent, complete and appropriate. Display the program requirements in a table format that includes all courses required for completion of the program (core requirements and required or restricted electives), subtotal of core units, and total program units. For each course, indicate the course department number, course title, and unit value.*

#### Display of Program Requirements

Core Courses	Title	Units
ELEC 030	Fundamentals of Electricity	5
ELEC 031	Electrical Wiring Methods	7
ELEC 034	Motor Controls	5
ELEC 037	Introduction to Programmable Logic Controllers	4
ELEC 041	Fire Alarms	2
ELEC 042	Security Alarms	2
ELEC 070	Electrical Codes I	3
ELEC 073	Construction Safety – OSHA	2
ELEC 076	Electrical Motors	5
ELEC 077	Industrial Wiring Methods	5
	<b>Minimum Major Units</b>	<b>40</b>
	<b>Local GE pattern</b>	<b>24</b>
<b>Total Units Required for Degree</b>		<b>64</b>

## Display of Proposed Sequence

First Semester	Units
ELEC 030	5
ELEC 042	2
<b>Total</b>	<b>7</b>

Second Semester	Units
ELEC 031	7
ELEC 077	5
<b>Total</b>	<b>12</b>

Summer Term	Units
ELEC 070	3
<b>Total</b>	<b>3</b>

Third Semester	Units
ELEC 034	5
ELEC 073	2
ELEC 076	5
<b>Total</b>	<b>12</b>

Fourth Semester	Units
ELEC 037	4
ELEC 041	2
<b>Total</b>	<b>6</b>

### Proposed Sequence

	Major Units	GE Units
Year 1, Fall	7	3
Year 1, Spring	12	3
Year 1, Summer	3	
Year 2, Fall	12	6
Year 2, Spring	6	9
Year 2, Summer		3
<b>Total</b>	<b>40</b>	<b>24</b>

## 4. Master Planning (Background and Rationale)

*Given the stated goals and objectives, address the role the proposed program will fulfill in the college's mission and curriculum offerings. This discussion may include some history of the program proposal origins, a description of the program purpose, and/or the program's relevancy for the region and college.*

*The proposal must demonstrate a need for the program that meets the stated goals and objectives in the region the college proposes to serve with the certificate. A proposed new certificate must not cause undue competition with an existing program at another college.*

*If any expenditures for facilities, equipment or library and learning resources are planned, please explain the specific needs in this section.*

*If the program is to be offered in close cooperation with one or more specific employers, a discussion of the relationship must be provided.*

The Electrical Technology department has been offering classes for several decades in the San Joaquin Delta College Service Area. As of 2007, the college has been approved by the State of California as an Approved Educational Provider for the General Electrician Trainee curriculum and the program offers all the courses in order for electricians to work as a General Electrician Trainee and meets Labor Code 3099 requirements. The courses are required for electrician trainees and must complete satisfactorily in order to work for an electrical contractor in the State of California. The certificate aligns with the State of California and industry required curriculum in order to better serve our students to enter the workforce. This certificate aligns with college master plan to expand and serve our community service area with workforce development. The Associate in Science degree has been endorsed by local industry advisory board members as necessary for the region that are preparing to enter management positions in the electrical industry and in order to comply with State of California laws and demand for a regional workforce.

## 5. Need for Program

### a. Enrollment and Completer Projections

*Address and justify the number of projected students or “annual completers” to be awarded the certificate each year after the program is fully established.*

		2013-2014		2014-2015	
CB01: Course Department	CB02: Course Title	Annual #	Annual Enrollment Total	Annual #	Annual Enrollment Total
ELEC 030	Fundamentals of Electricity	5	112	8	150
ELEC 031	Electrical Wiring	1	26	2	61
ELEC 034	Motor Controls	2	47	1	15
ELEC 037	Intro to Progr. Logic Contr.	1	17	1	28
ELEC 041	Fire Alarms	0	0	1	18
ELEC 042	Security Systems	0	0	0	0
ELEC 070	Electrical Code	2	56	0	0
ELEC 073	Construction	0	0	0	0
ELEC 076	Electrical Motors	1	19	1	21
ELEC 077	Industrial Wiring	1	26	1	31

Annual Completers – Projected: 5

### b. Labor Market Information (LMI)

Summarize the Labor Market Information (LMI) and employment outlook (Including citation for the source of the data) for students exiting the program.

Enter table or chart as a separate attachment.

See Supporting Documentation below

c. Employer Survey (if applicable)

When strong LMI data is not available, an employer survey may be submitted. Provide a copy of the survey, including the number of those surveyed, number of responses, and a summary of the results. The survey must address the extent to which the proposed degree or certificate will be valued by employers.

Not applicable

**6. Place of Program in Curriculum/Similar Programs**

Review the college’s existing program inventory, then address the following questions:

- Do any active inventory records need to be made inactive or changed in connection with the approval or the proposed program? If yes, please specify.
- Does the program replace any existing program(s) on the college’s inventory? Provide relevant details if this program is related to the termination or scaling down of another program(s).
- What related programs are offered by the college?

Content from the Electrical Technology Associate in Science degree has been aligned with two certificates; Electrical Technology Certificate of Achievement and Electrical Technology – General Electrician Trainee Certificate of Achievement. The Electrical Technology Associate in Science degree will serve as the 3rd of a 3-certificate/degree stackable progression for students in order to ultimately reach the Associate in Science degree.

**7. Similar Programs at Other Colleges in Service Area**

List similar programs offered at other colleges within the Central/Mother Lode Region that may be adversely impacted. Enter ‘none’ if there are no similar programs.

College	Program
None	

## **Supporting documentation required**

### **Labor Market Information**

*In a separate attachment, provide current Labor Market Information showing that jobs are available for program completers within the local service area. Statewide or national LMI may be included as supplementary support but evidence of need in the specific college service area or region is also necessary.*

<b>Area</b>	<b>Code</b>	<b>Occupation</b>	<b>Est Yr-Proj Yr</b>	<b>Estimated Employment</b>	<b>Numeric Change</b>
Mother Lode Region	472111	Electricians	2012 - 2022	140	40
Mother Lode Region	492000	Electrical and Electronic Equipment Mechanics, Installers, a	2012 - 2022	180	30
Mother Lode Region	492094	Electrical and Electronics Repairers, Commercial and Industr	2012 - 2022	20	10

*Source: State of California, EDD, Occupational Projections, <http://www.labormarketinfo.edd.ca.gov/>*

The LMI analysis indicates a much faster growth than average in the electrical industry in comparison to other occupations and is classified by the U.S. Dept. of Labor. National trends indicate a 20% job growth outlook for 2012-2022 and 22% in California with at least annual projected job openings of 2000 over that period in the State. These numbers indicate a strong growth in job prospects for our students going through the program.

The Stockton-Lodi Metropolitan Statistical Area LMI analysis indicates that Electricians is one of the fastest growing occupations with projected 50.6% growth over the 2012-2022 period with an average of 5.1% annual change. These factors indicate a strong job growth and our goal of 25-30 students to complete on a yearly basis is well below the expected job market demand for this region. If we include the outlying counties, the picture becomes more positive for our students. Many students have been placed with employers in the outlying counties and travel daily to places such as Dublin, Concord, Sacramento, San Jose, etc. especially for the higher wages.

Wages are above average for Electricians with Median wages of \$60,959 in the Stockton-Lodi region as EDD data indicates for 2014. The State of California has a yearly median wage of \$61,400 and the United States of \$51,100.

With the strong job growth outlook and strategically located in the region, our students will have successful job prospects with high wage earnings that will benefit them and our community in the San Joaquin county.

### **List of Members of Advisory Committee**

*This list must include advisory committee member names, job titles, and affiliations.*

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Sam Karufeh	Business Representative	IBEW Local #595 East
David Brooks	Training Director	San Joaquin and Calaveras Electrical JATC
Matthew Baker	Training Supervisor	Pacific Gas and Electric
Chris Riley	Pre-Construction Manager	Collins Electric Inc.
Mark Hajder	Regional Ops Manager	Solar City Inc.
Kristin Anzaldo-Bohi	Recruiting Manager	Solar City Inc.
Rick Leddy	President	Mar-Tech Engineering
Cody Hoffman	Sales	Platt Electric
Chuck Klein	CEO	Klein Educational Inc.
Amy Pettipence	Student	San Joaquin Delta College
Larry Ancheta	Student	San Joaquin Delta College
Rocky LaJeunesse	Counselor	San Joaquin Delta College
Ruben Martinez	Adjunct Faculty and Owner	RM Electric
Gillian Murphy	Dean	San Joaquin Delta College
Mary Jo Zimmerman	Faculty	San Joaquin Delta College
David Thomas	Faculty	San Joaquin Delta College

**Recommendation of Advisory Committee (Meeting Minutes)**

*In a separate attachment, provide minutes of the advisory committee meetings at which the program was discussed and approved, with relevant areas highlighted, as well as a summary of the advisory committee recommendations.*

See Minutes below

# San Joaquin Delta College

## Electrical Technology Advisory Board Meeting

## Solar Technology Advisory Board Meeting

April 14, 2015  
3:30 p.m.

Budd 106, Delta College Campus  
David N. Thomas, Faculty Organizer

### MEETING MINUTES

Meeting began at 3:32PM

#### INTRODUCTIONS

In attendance:

Sam Karufeh – IBEW Local #595 East  
Matthew Baker – Pacific Gas & Electric  
Rocky Lajeunesse – Counselor at San Joaquin Delta College  
Mark Hajder – Regional Operations Manager at Solar City  
Gillian Murphy – Dean at San Joaquin Delta College  
David Thomas – Faculty

#### ITEMS FOR DISCUSSION, ANNOUNCEMENT, OR ACTION

##### **-Associate of Science in Electrical Technology**

Thomas updated that Associate of Science degree in Electrical Technology is ready for launch and is aligned with the State of California's curriculum as approved educational provider in the electrician trainee program.

-Certificates – Hajder mentioned that it is important to infuse renewable energy and solar into our program. Thomas gave update as to progress for certificates in Electrical Technology – Electrician Trainee program, Electrical Technology – Solar Installation, Electrical Technology – Apprenticeship option.

**-Through general consensus these programs were approved for introduction into the Electrical Technology program again with new committee members.**

-Karufeh mentioned that it was important that it is aligned with the electrician trainee program as state approval. Hajder mentioned that he sees in the next couple of years that the industry is moving in the direction that solar installers have a electrician trainee card. Hajder also mentioned that manufacturing and installation find value in NABCEP certification. He also said that the industry finds value having training in OSHA 30 training, and NFPA 70E training.

-It was mentioned that all the classes for the Electrician Trainee program need to be offered at night in addition to day classes to make sure that in order to continue working in the electrical field.

-Mary Jo Zimmerman has received the update training to be an OSHA approved trainer. The optional OSHA topics was reviewed by board members and it was recommended that she add the excavations, confined space entry, safety and health programs, scaffolds, tools and ergonomics.

##### **-CTE Funding 2014-2015 project submission**

- Project #1- Amatrol AC/DC Trainers \$82,000
- Project #2- Stand-alone Solar PV System \$12,000
- Professional Growth – OSHA Train-the-Trainer Certification

**-Solar Technology program** – Discussion was done that MH was not attracting enough students and the majority of students were traveling from Stockton and other areas. Thomas reported that the facilities were inadequate due to space limitation. Hadjer mentioned that there was a demand for workers in Solar industry and didn't see a slow done in the near future.

#### **College Mission Statement (BP 1200)**

The mission of San Joaquin Delta College is to provide excellent post-secondary education that serves the needs of students, the College District and the community through continuing, transfer, career and technical education, and economic development. To achieve this objective, the faculty and staff are committed to providing comprehensive instructional programs, student services and public services that are high quality.

In fulfilling its mission, San Joaquin Delta College acts upon the following principles:

- Commitment to excellence requires effective collaboration, respect for cultural diversity, appreciation of historical perspective, open communication, high academic standards, a vital connection to the arts and cultures of the community, and competitive athletics.
- Student success and equity are founded on a well-coordinated and institutionally-integrated developmental education program.
- Educational resources are available to all students regardless of age, disability, gender, or ethnicity.
- Institutional renewal must include continuous improvement through new and revised curricula; the use of student learning outcomes to enhance student performance; new and effective technologies; and ongoing faculty and staff professional development.
- All aspects of the College encourage good citizenship, responsible leadership, ethical behavior, and the appreciation of lifelong learning

San Joaquin Delta College  
Electrical Technology Advisory Board  
Solar Technology Advisory Board  
April 14, 2015

-Baker reported that 40% of the PG&E physical trades workers are entering eligibility retirement with the next 3 years and 60% with the next 5 years. Thomas mentioned that there may be an opportunity for training in Pre-apprenticeship for Utility workers and especially for veterans. Hadjer also mentioned that veterans make great workers.

-Karufeh mentioned that it was important for our program to devote time to soft-skills and entry-level skills for the electrical trade.

-Baker mentioned that the Energy Center is looking at more online and that our college should look at more online due to worker time constraints and the industry needs.

**ADJOURNMENT**

Meeting adjourned at 4:46 PM