



# **APPRENTICESHIP TRAINING PROGRAMS**

## APPRENTICESHIP TRAINING PROGRAMS

### APPRENTICESHIP FIELDS OF STUDY

Control Operator  
Electrician  
Generation Mechanic  
Hydro Operator  
Instrument Technician  
Meter Technician  
Power Lineman  
Relays Technician  
SCADA/Telecommunications Technician  
Substation-Electrician  
Telecommunications Technician

### DEGREES, CERTIFICATES AND AWARDS

#### Associate in Science Degree (A.S.)

- Electrician
- Generation Mechanic
- Meter Technician
- Power Lineman
- Relays Technician
- SCADA/Telecommunications Technician
- Substation-Electrician

#### Certificate of Achievement

- Electrician
- Generation Mechanic
- Hydro Operator
- Instrument Technician
- Meter Technician
- Power Lineman
- Power Plant Operator
- Relays Technician
- SCADA/Telecommunications Technician
- Substation-Electrician
- Telecommunications Technician

### DESCRIPTION

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID). Applicants for these apprenticeship programs are directed to the IID office located at: 333 E. Barioni Blvd, Imperial, California 92251, telephone (760) 482-9640.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices. Majors and certificates are available for most of the Apprenticeship programs identified on this page.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

### APPRENTICESHIP COURSE LOCATIONS

#### **ID-ECBB**

Imperial Irrigation District, El Centro Bell Building  
2151 W. Adams Ave.  
El Centro, CA 92243

#### **IID-ETC**

Imperial Irrigation District, Employee Training Center  
333 E Barioni Blvd.  
Imperial, CA 92251

#### **IID-ECTR**

Imperial Irrigation District, El Centro Training Center  
1284 Main St.  
El Centro, CA 92243

#### **IID-HYDROS**

Imperial Irrigation District, Hydros  
3675 E. Hwy. 98  
Holtville, CA 92250

#### **IID-LQ**

Imperial Irrigation District, La Quinta  
81600 Avenue 58  
La Quinta, CA 92253

#### **IID-PD**

Imperial Irrigation District, Power Dock  
333 E. Barioni Blvd.  
Imperial, CA 92251

#### **IID-SP**

Imperial Irrigation District, Steam Plant  
485 W. Villa Rd.  
El Centro, CA 92243

#### **IID-WC**

Imperial Irrigation District, Water Control  
333 E. Barioni Blvd.  
Imperial, CA 92251

# APPRENTICESHIP – CONTROL OPERATOR

## DEGREES, CERTIFICATES AND AWARDS

Certificate of Achievement

### DESCRIPTION

The Control Operator Apprenticeship Program will prepare students to operate and control distributed control system and heat recovery steam generator, steam turbines, generators, and associated mechanical and electrical equipment in the production of electrical energy.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### CERTIFICATE OF ACHIEVEMENT PROGRAM

The **Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

### FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – CONTROL OPERATOR

## CERTIFICATE PROGRAM

### APPRENTICESHIP – CONTROL OPERATOR CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APPL	105	Power Plant Operator V	4.0
APPL	106	Power Plant Operator VI	4.0
APPL	107	Power Plant Operator VII	4.0
APPL	108	Power Plant Operator VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – ELECTRICIAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)

Certificate of Achievement

### DESCRIPTION

The Electrician Apprenticeship Program will prepare students to perform a variety of skilled electrical work associated with the construction, installation, maintenance, and repair of high and low voltage electrical systems found in substations, control buildings, and underground facilities.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

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[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

### FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – ELECTRICIAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – ELECTRICIAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APEL	105	Electrician V	4.0
APEL	106	Electrician VI	4.0
<u>OR</u>	APLN 106	Power Lineman VI (4.0)	
APEL	107	Electrician VII	4.0
APEL	108	Electrician VIII	4.0

**Total Major Units**

**32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – ELECTRICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APEL	105	Electrician V	4.0
APEL	106	Electrician VI	4.0
<u>OR</u>	APLN 106	Power Lineman VI (4.0)	
APEL	107	Electrician VII	4.0
APEL	108	Electrician VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – GENERATION MECHANIC

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)  
Certificate of Achievement

### DESCRIPTION

The Generation Mechanic Apprenticeship Program will prepare students to inspect, test, adjust, and repair mechanical power generation equipment.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>



Photo: Imperial Irrigation District (IID)

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

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[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

### FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – GENERATION MECHANIC

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – GENERATION MECHANIC – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major.

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APGN	105	Generation Mechanic V	4.0
APGN	106	Generation Mechanic VI	4.0
APGN	107	Generation Mechanic VII	4.0
APGN	108	Generation Mechanic VIII	4.0

**Total Major Units**

**32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – GENERATION MECHANIC CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APGN	105	Generation Mechanic V	4.0
APGN	106	Generation Mechanic VI	4.0
APGN	107	Generation Mechanic VII	4.0
APGN	108	Generation Mechanic VIII	4.0

**Total Certificate Units**

**32.0**



# APPRENTICESHIP – HYDRO OPERATOR

## DEGREES, CERTIFICATES AND AWARDS

Certificate of Achievement

### DESCRIPTION

The Hydro Operator Apprenticeship Program will prepare students to control operations of electrical and mechanical equipment (including hydraulic machinery) at one or more hydroelectric generating plants.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### CERTIFICATE OF ACHIEVEMENT PROGRAM

The **Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

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# APPRENTICESHIP – HYDRO OPERATOR

## CERTIFICATE PROGRAM

### APPRENTICESHIP – HYDRO OPERATOR CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APHY	105	Hydro Operator V	4.0
APHY	106	Hydro Operator VI	4.0
APHY	107	Hydro Operator VII	4.0
APHY	108	Hydro Operator VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – INSTRUMENT TECHNICIAN

## DEGREES, CERTIFICATES AND AWARDS

Certificate of Achievement

### DESCRIPTION

The Instrument Technician Apprenticeship Program will prepare students to inspect, adjust, and repair electrically and pneumatically operated instruments used to indicate and control operating conditions of turbines, furnaces, boilers, and auxiliaries in power-generating plants.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### CERTIFICATE OF ACHIEVEMENT PROGRAM

The **Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

### FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – INSTRUMENT TECHNICIAN

## CERTIFICATE PROGRAM

### APPRENTICESHIP – INSTRUMENT TECHNICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APIN	105	Instrument Technician V	4.0
APIN	106	Instrument Technician VI	4.0
APIN	107	Instrument Technician VII	4.0
APIN	108	Instrument Technician VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – METER TECHNICIAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)

Certificate of Achievement

## DESCRIPTION

The Meter Technician Apprenticeship Program will prepare students to inspect, test, calibrate, maintain, and repair KWH meters and associated equipment in the shop or in the field, determine when KWH meters are obsolete or beyond repair, and maintain records on all KWH meters.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

## PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

## ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

## CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

## TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

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[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

## FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – METER TECHNICIAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – METER TECHNICIAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APMT	105	Meter Technician V	4.0
APMT	106	Meter Technician VI	4.0
APMT	107	Meter Technician VII	4.0
APMT	108	Meter Technician VIII	4.0

**Total Major Units**

**32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – METER TECHNICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APMT	105	Meter Technician V	4.0
APMT	106	Meter Technician VI	4.0
APMT	107	Meter Technician VII	4.0
APMT	108	Meter Technician VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – POWER LINEMAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)

Certificate of Achievement

### DESCRIPTION

The Power Lineman Apprenticeship Program will prepare students to perform a variety of skilled line and power work connected with the construction and maintenance of overhead and underground electrical transmission, distribution lines, and perform work on energized circuits ranging from low to high voltage lines.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

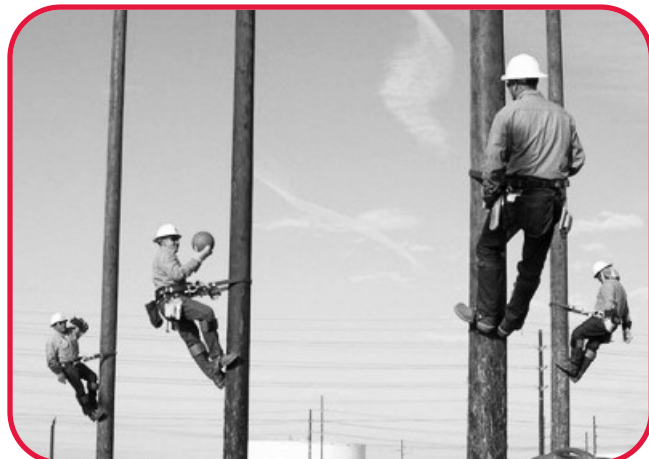


Photo: Imperial Irrigation District (IID)

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

### FINANCIAL AID

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# APPRENTICESHIP – POWER LINEMAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – POWER LINEMAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APLN	105	Power Lineman V	4.0
APLN	106	Power Lineman VI	4.0
APLN	107	Power Lineman VII	4.0
APLN	108	Power Lineman VIII	4.0

**Total Major Units**

**32.0**

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## CERTIFICATE PROGRAM

### APPRENTICESHIP – POWER LINEMAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APLN	105	Power Lineman V	4.0
APLN	106	Power Lineman VI	4.0
APLN	107	Power Lineman VII	4.0
APLN	108	Power Lineman VIII	4.0

**Total Certificate Units**

**32.0**



# APPRENTICESHIP – RELAYS TECHNICIAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)

Certificate of Achievement

## DESCRIPTION

The Relays Technician Apprenticeship Program will prepare students to install, maintain, test, and repair the Imperial Irrigation District's substation protective relays, AC and DC control systems, microprocessor relaying communications, and associated high voltage substation equipment.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

## PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

## ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

## CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

## TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

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[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

## FINANCIAL AID

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# APPRENTICESHIP – RELAYS TECHNICIAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – RELAYS TECHNICIAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APRL	105	Relays Technician V	4.0
APRL	106	Relays Technician VI	4.0
<u>OR</u>			
APLN	106	Power Lineman VI (4.0)	
APRL	107	Relays Technician VII	4.0
APRL	108	Relays Technician VIII	4.0

**Total Major Units**

**32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – RELAYS TECHNICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APRL	105	Relays Technician V	4.0
APRL	106	Relays Technician VI	4.0
<u>OR</u>			
APLN	106	Power Lineman VI (4.0)	
APRL	107	Relays Technician VII	4.0
APRL	108	Relays Technician VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – SCADA/TELECOMMUNICATIONS TECHNICIAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)  
Certificate of Achievement

### DESCRIPTION

The Telecommunications Technician Apprenticeship Program will prepare students to install, configure, test, maintain, troubleshoot, and repair microwave radio and fiber-optic networks for substation communications, two-way radio, telephone, video surveillance systems, and associated equipment.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

### ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>



Photo: Imperial Irrigation District (IID)

### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

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[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

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# APPRENTICESHIP – SCADA/TELECOMMUNICATIONS TECHNICIAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – SCADA/TELECOMMUNICATIONS TECHNICIAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APSC	105	SCADA/Telecommunications Technician V	4.0
APSC	106	SCADA/Telecommunications Technician VI	4.0
APSC	107	SCADA/Telecommunications Technician VII	4.0
APSC	108	SCADA/Telecommunications Technician VIII	4.0

**Total Major Units**

**32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – SCADA/TELECOMMUNICATIONS CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APSC	105	SCADA/Telecommunications Technician V	4.0
APSC	106	SCADA/Telecommunications Technician VI	4.0
APSC	107	SCADA/Telecommunications Technician VII	4.0
APSC	108	SCADA/Telecommunications Technician VIII	4.0

**Total Certificate Units**

**32.0**

# APPRENTICESHIP – SUBSTATION ELECTRICIAN

## DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)  
Certificate of Achievement

## DESCRIPTION

The Substation-Electrician Apprenticeship Program will prepare students to perform a variety of skilled electrical work associated with the construction, installation, maintenance, and repair of high and low voltage electrical systems found in substations, control buildings, and underground facilities.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

## PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

## ASSOCIATE DEGREE AND CERTIFICATE OF ACHIEVEMENT PROGRAMS

**The Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

**The Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate.; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

## CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>



Photo: Imperial Irrigation District (IID)

## TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

## FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – SUBSTATION ELECTRICIAN

## ASSOCIATE DEGREE PROGRAM

### APPRENTICESHIP – SUBSTATION ELECTRICIAN – A.S. DEGREE

Thirty-two (32.0) units required for the major.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the major (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APSB	105	Substation-Electrician V	4.0
APSB	106	Substation-Electrician VI	4.0
<u>OR</u>	APLN	106	Power Lineman VI (4.0)
APSB	107	Substation-Electrician VII	4.0
APSB	108	Substation-Electrician VIII	4.0

**Total Major Units** **32.0**

## CERTIFICATE PROGRAM

### APPRENTICESHIP – SUBSTATION ELECTRICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APSB	105	Substation-Electrician V	4.0
APSB	106	Substation-Electrician VI	4.0
<u>OR</u>	APLN	106	Power Lineman VI (4.0)
APSB	107	Substation-Electrician VII	4.0
APSB	108	Substation-Electrician VIII	4.0

**Total Certificate Units** **32.0**

# APPRENTICESHIP – TELECOMMUNICATIONS TECHNICIAN

## DEGREES, CERTIFICATES AND AWARDS

### Certificate of Achievement

#### DESCRIPTION

The Telecommunications Technician Apprenticeship Program will prepare students to install, configure, test, maintain, troubleshoot, and repair microwave radio and fiber-optic networks for substation communications, two-way radio, telephone, video surveillance systems, and associated equipment.

Apprenticeship training programs provide the participant an opportunity for formal training consisting of a balance between on-the-job training (OJT) and technical related and supplemented instruction (RSI) directly associated with the particular trade or industry. The OJT is coordinated through the Imperial Irrigation District (IID) and the RSI is provided by Imperial Valley College.

To be eligible to participate in any of the apprenticeship training programs, an individual must be an employee of the Imperial Irrigation District (IID).

Apprentices must complete the eight courses that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

The ELTT (101-104) courses are open to apprentices and non-apprentices. See the Electrical Trades major and certificate listing in the IVC General Catalog. While completion of the ELTT courses does not require nor assure employment with the IID, it does place an individual in a better position to seek employment.

#### PROGRAM LEARNING OUTCOMES

1. Students will receive positive apprentice evaluations on coursework, safety practices, and curriculum applications.
2. Students will be prepared to take the senior apprentice certification at the completion of one half of the program (ELTT 101-104) and the completion of 4,000 of the on-the-job training hours.
3. Students will be prepared through the completion of classroom instruction and 8,000 of the on-the-job training hours to successfully pass the State of California journeyman examination and receive the journeyman certification.

#### CERTIFICATE OF ACHIEVEMENT PROGRAM

The **Certificate of Achievement** program is designed for students with personal or occupational goals who wish early employment. To qualify for the Certificate, a student must satisfy the following requirements: (1) complete all courses listed for a particular certificate; (2) achieve a "C" average (2.0 GPA) for all courses used to complete the certificate; and, (3) file a Certificate Application form with Admissions and Records by the appropriate deadline(s) identified on the application.

#### CAREER OPPORTUNITIES

Upon completion of the apprenticeship program(s), students may find employment in the following industry sectors: government, commercial and industrial construction and maintenance, utilities, and facilities management. With the degree students may further their career as licensed contractors.

**Gainful Employment:** Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>

#### TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

#### Transfer Resources:

[www.ASSIST.org](http://www.ASSIST.org) – CSU and UC Articulation Agreements and Majors Search Engine

[www.CSUMentor.edu](http://www.CSUMentor.edu) – CSU System Information

[www.universityofcalifornia.edu/admissions/index.html](http://www.universityofcalifornia.edu/admissions/index.html) - UC System Information

[www.aiccu.edu](http://www.aiccu.edu) – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

#### FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: [www.imperial.edu/students/financial-aid-and-scholarships/](http://www.imperial.edu/students/financial-aid-and-scholarships/)

# APPRENTICESHIP – TELECOMMUNICATIONS TECHNICIAN

## CERTIFICATE PROGRAM

### APPRENTICESHIP – TELECOMMUNICATIONS TECHNICIAN CERTIFICATE

Thirty-two (32.0) units required for the certificate.

Apprentices must complete the eight courses listed below that correspond to the apprenticeship program they are in. The AP\*\* 105-108 courses are open only to IID apprentices.

ALL COURSES FOR THIS CERTIFICATE MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

#### I. Required courses for the certificate (32.0 units).

ELTT	101	Electrical Trades I	4.0
ELTT	102	Electrical Trades II	4.0
ELTT	103	Electrical Trades III	4.0
ELTT	104	Electrical Trades IV	4.0
APTL	105	Telecommunications Technician V	4.0
APTL	106	Telecommunications Technician VI	4.0
APTL	107	Telecommunications Technician VII	4.0
APTL	108	Telecommunications Technician VIII	4.0

**Total Certificate Units**

**32.0**



# APPRENTICESHIP - COURSES OF INSTRUCTION

## APPRENTICESHIP-CONTROL OPERATOR

**APPL 105 (4.0 UNITS)**  
**Power Plant Operator V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Instruction operating and controlling distributed control system and heat recovery steam generator, steam turbines, generators, boilers and associated mechanical and electrical equipment in the production of electrical energy. (Nontransferable, nondegree applicable)

**APPL 106 (4 Units)**  
**Power Plant Operator VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APPL 105 - Power Plant Operator V.  
Comprehensive review of combined cycle power generation, gas turbine benefits, heat recovery generator, cycle parameters and their impact on plant performance, fuels for combined cycle plants, steam turbine generators, and turbine auxiliary equipment. (Nontransferable, nondegree applicable)

**APPL 107 (4 Units)**  
**Power Plant Operator VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APPL 106 - Power Plant Operator VI.  
Introduction to combined cycle principles, steam turbine generator, turbine control, generator operations, major components, heat recovery steam generator, flow paths and critical inspection. (Nontransferable, nondegree applicable)

**APPL 108 (4 Units)**  
**Power Plant Operator VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APPL 107 - Power Plant Operator VII.  
Advanced principles of combine cycle, steam turbine generator, turbine control, generator operations, major components, heat recovery steam generator, flow paths and critical inspection. (Nontransferable, nondegree applicable)

## APPRENTICESHIP-ELECTRICIAN

**APEL 105 (4 Units)**  
**Electrician V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Instruction in print reading, removal and maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair) and implementation of applied calculations. (Nontransferable, AA/AS degree only)

**APEL 106 (4 Units)**  
**Electrician VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APEL 105 - Electrician V.  
Comprehensive review in AC theory and advanced training in control equipment, (i.e., capacitors, reactors, and circuit breakers), review of high voltage terminations, relays and transformers. Implementation and review of safety regulations applicable to switchyards, substations and confined spaces. (Nontransferable, AA/AS degree only)

**APEL 107 (4 Units)**  
**Electrician VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APEL 106 - Electrician VI  
Instruction in Right-of-Ways/Easements, Flash outs and Electrical Burns. Training in a broad scope of areas usual to the power utility industry (i.e., meters, cable fault location, etc.). Review of various safety issues appropriate to the power utility industry. (Nontransferable, AA/AS degree only)

**APEL 108 (4 Units)**  
**Electrician VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APEL 107 - Electrician VII.  
Comprehensive review of practical electrical wiring including residential and commercial wiring systems. Review of construction safety and the use of test equipment, small electrical devices and transformers. Advanced apprentice training in resistance and wire size and Title VIII Underground and overhead work. Preparation for the National Electrical Code Journey Exam. (Nontransferable, AA/AS degree only)

## APPRENTICESHIP-GENERATION MECHANIC

**APGN 105 (4 Units)**  
**Generation Mechanic V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Comprehensive review in AC theory, application and generation line systems augmented with an introduction of hydro electric power, generation, dispatching, hydro power operations and related construction standards. (Nontransferable, AA/AS degree only)

**APGN 106 (4 Units)**  
**Generation Mechanic VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APGN 105 - Generation Mechanic V.  
Advanced review in AC theory, application and generation line systems augmented with an introduction of hydro electric power, generation, dispatching, hydro power operations and related construction standards. (Nontransferable, AA/AS degree only)

**APGN 107 (4 Units)**  
**Generation Mechanic VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APGN 106 - Generation Mechanic VI.  
Advanced theory in the use of rules and regulations, specialized equipment, repair and maintenance of hydro-generators, safety practices, local and state requirements, and control systems. (Nontransferable, AA/AS degree only)

**APGN 108 (4 Units)**  
**Generation Mechanic VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APGN 107 - Generation Mechanic VII.  
Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair, using temporary structures, and usage of gloves and hot sticks). Preparation for the National Electrical Code Journey Exam. (Nontransferable, AA/AS degree only)

## APPRENTICESHIP-HYDRO OPERATOR

**APHY 105 (4 Units)**  
**Hydro Operator V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Comprehensive review in AC theory, application and generation line systems augmented with an introduction of hydro electric power, generation, dispatching, hydro power operations and related construction standards. (Nontransferable, nondegree applicable)

**APHY 106 (4 Units)**  
**Hydro Operator VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APHY 105 - Hydro Operator V.  
Advanced review in AC theory, application and generation line systems augmented with an introduction of hydro electric power, generation, dispatching, hydro power operations and related construction standards. (Nontransferable, nondegree applicable)

**APHY 107 (4 Units)**  
**Hydro Operator VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APHY 106 - Hydro Operator VI  
Advanced theory in the use of rules and regulations, specialized equipment, repair and maintenance of hydro-generators, safety practices, local and state requirements, and control systems. (Nontransferable, nondegree applicable)

**APHY 108 (4 Units)**  
**Hydro Operator VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APHY 107 - Hydro Operator VII.  
Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair, using temporary structures, and usage of gloves and hot sticks). Preparation for the National Electrical Code Journey Exam. (Nontransferable, non-degree applicable)

## APPRENTICESHIP-INSTRUMENT TECHNICIAN

**APIN 105 (4 Units)**  
**Instrument Technician V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Instruction in inspecting, adjusting and repairing electrically and pneumatically operated instruments used to indicate and control operating conditions of turbines, furnaces, boilers and auxiliaries, in steam, gas, and hydro generating plants. (Nontransferable, nondegree applicable)

**APIN 106 (4 Units)**  
**Instrument Technician VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APIN 105 - Instrument Technician V.  
An introduction to instrument transformers and substation metering devices. Continued study in principles and application of capacitors, reactors, circuit breakers, and relays. Introduction to the basic principles in the operation of power transformers. (Nontransferable, non-degree applicable)

**APIN 107 (4 Units)**  
**Instrument Technician VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APIN 106 - Instrument Technician VI  
Instruction in inspecting, adjusting and repairing electrically and pneumatically operated instruments used to indicate and control operating conditions of turbines, furnaces, boilers and auxiliaries, in steam, gas, and hydro generating plants. (Nontransferable, nondegree applicable)

**APIN 108 (4 Units)**  
**Instrument Technician VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APIN 107 - Instrument Technician VII.  
Advanced instruction in inspecting, adjusting and repairing electrically and pneumatically operated instruments used to indicate and control operating conditions of turbines, furnaces, boilers and auxiliaries, in steam, gas, and hydro generating plants. (Nontransferable, nondegree applicable)

## APPRENTICESHIP-METER TECHNICIAN

### APMT 105 (4 Units)

#### Meter Technician V

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: ELTT 104 - Electrical Trades IV.

Comprehensive review in AC theory and basic wiring for meter installations, working on de-energized lines, rigging for high voltage work, troubleshooting and testing for meter failures. (Nontransferable, AA/AS degree only)

### APMT 106 (4 Units)

#### Meter Technician VI

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APMT 105 - Meter Technician V.

The basic principles in the construction, operation, maintenance procedures and print reading associated with substations and switchyards. (Nontransferable, AA/AS degree only)

### APMT 107 (4 Units)

#### Meter Technician VII

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APMT 106 - Meter Technician VI.

Theory and practicum in the procedures for completing commercial and residential connections, extensive overview of watt hour installations, and the advanced review of electrical test equipment. (Nontransferable, AA/AS degree only)

### APMT 108 (4 Units)

#### Meter Technician VIII

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APMT 107 - Meter Technician VII.

Advanced theory in the use of specialized test equipment, repair and maintenance of motors, generators and pumps, safety practices, local and state requirements, and electrical mathematics. (Nontransferable, AA/AS degree only)

## APPRENTICESHIP-POWER LINEMAN

### APLN 105 (4 Units)

#### Power Lineman V

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: ELTT 104 - Electrical Trades IV.

Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair, using temporary structures, and usage of gloves and hot sticks). (Nontransferable, AA/AS degree only)

### APLN 106 (4 Units)

#### Power Lineman VI

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APLN 105 - Power Lineman V.

The basic principles in the construction, operation, and maintenance procedures associated with substations and switchyards. (Nontransferable, AA/AS degree only)

### APLN 107 (4 Units)

#### Power Lineman VII

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APLN 106 - Power Lineman VI.

Theory and practicum in the procedures for completing commercial and residential connections, extensive overview of watt hour installations, and the installation and maintenance of series and multiple circuit street lighting systems. (Nontransferable, AA/AS degree only)

### APLN 108 (4 Units)

#### Power Lineman VIII

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APLN 107 - Power Lineman VII.

Advanced theory in the use of "hot sticks," specialized equipment, repair and maintenance of poles and lines (energized and de-energized), safety practices, local and state requirements, and lineman mathematics. (Nontransferable, AA/AS degree only)

## APPRENTICESHIP-RELAYS TECHNICIAN

### APRL 105 (4 Units)

#### Relays Technician V

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: ELTT 104 - Electrical Trades IV.

Comprehensive review in AC substation safety and AC theory with an introduction to troubleshooting in the field. An introduction to working on de-energized substation equipment and lines. (Nontransferable, AA/AS degree only)

### APRL 106 (4 Units)

#### Relays Technician VI

**Term Hours: 72 Lec, 0 Lab**

#### Letter Grade Only

Prerequisite: APRL 105 - Relays Technician V.

An introduction to instrument transformers and substation metering devices. Continued study in principles and application of capacitors, reactors, circuit breakers, and relays. Introduction to the basic principles in the operation of power transformers. (Nontransferable, AA/AS degree only)

**APRL 107 (4 Units)**  
**Relays Technician VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only..**

Prerequisite: APRL 106 - Relays Technician VI  
Overview of switching orders, flashouts and electrical burns. Theory and practicum in the procedures for completing, testing, and troubleshooting commercial and residential connections. Review of advanced electrical systems. (Nontransferable, AA/AS degree only)

**APRL 108 (4 Units)**  
**Relays Technician VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APRL 107 - Relays Technician VII.  
Advanced review in types of relays for generators, transmission applications, transformers and substation buss protection; and review of IID communication systems. Comprehensive study in the principles of disaster recovery and use of emergency generators. (Nontransferable, AA/AS degree only)

## **APPRENTICESHIP-SCADA/ TELECOMMUNICATIONS TECHNICIAN**

**APSC 105 (4 Units)**  
**SCADA/Telecommunications Technician V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Instruction in distribution line installation, maintenance, repair, and removal. Training in the use of hot sticks and gloves. An overview of pole top transformer, transmission and distribution line replacement, and working on de-energized transmission lines. Advanced review of high voltage AC systems and advanced mathematical review. (Nontransferable, AA/AS degree only)

**APSC 106 (4 Units)**  
**SCADA/Telecommunications Technician VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSC 105 - SCADA/Telecommunications Technician V.  
Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair, using temporary structures, and the safe use of gloves and hotsticks). (Nontransferable, AA/AS degree only)

**APSC 107 (4 Units)**  
**SCADA/Telecommunications Technician VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSC 106 - SCADA/Telecommunications Technician VI.  
Introduction to Service Connections and Watthour Meters (i.e., service installation, electric meters, and cable fault location). An overview of the use and maintenance of compressors and pneumatic tools. Safety training in T & D maintenance, transmission line safety and flashouts/electrical burns. An introduction to fiber optic connections. (Nontransferable, AA/AS degree only)

**APSC 108 (4 Units)**  
**SCADA/Telecommunications Technician VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSC 107 - SCADA/Telecommunications Technician VII.  
Comprehensive review of industry standards relative to constructing microwave and telecommunication systems. Review of construction safety and the use of test equipment, small electrical devices and transformers. Advanced apprentice training in resistance and wire size and Title VIII Underground and overhead work. (Nontransferable, AA/AS degree only)

## **APPRENTICESHIP-SUBSTATION-ELECTRICIAN**

**APSB 105 (4 Units)**  
**Substation - Electrician V**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.  
Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, hot transmission line repair, safe usage of gloves and other safety equipment, working in confined spaces and substations). (Nontransferable, AA/AS degree only)

**APSB 106 (4 Units)**  
**Substation-Electrician VI**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSB 105 - Substation-Electrician V.  
Comprehensive review in AC theory and advanced training in substation construction and maintenance, transmission line installation, working on de-energized lines, rigging for high voltage work, appropriate use of control equipment. (Nontransferable, AA/AS degree only)

**APSB 107 (4 Units)**  
**Substation-Electrician VII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSB 106 - Substation-Electrician VI or APLN 106 Power Lineman VI.  
Theory and practicum in the procedures for recognizing easements and right-of-ways, extensive overview of watt hour installations, installation and maintenance of circuit breakers and review of basic business protocols. (Nontransferable, AA/AS degree only)

**APSB 108 (4 Units)**  
**Substation-Electrician VIII**  
**Term Hours: 72 Lec, 0 Lab**  
**Letter Grade Only**

Prerequisite: APSB 107 - Substation-Electrician VII.  
Advanced theory in the use of specialized equipment, repair and maintenance of circuit breakers and regulators, safety practices, review of local and state construction requirements. (Nontransferable, AA/AS degree only)

## **APPRENTICESHIP-TELECOMMUNICATIONS TECHNICIAN**

### **APTL 105 (4 Units)**

#### **Telecommunications Technician V**

**Term Hours: 72 Lec, 0 Lab**

#### **Letter Grade Only**

Prerequisite: ELTT 104 - Electrical Trades IV.

Instruction in installation, configuration, testing, maintaining, troubleshooting and repairing the District's SCADA, data-communication, revenue meter, and associated power plant systems. (Nontransferable, nondegree applicable)

### **APTL 106 (4 Units)**

#### **Telecommunications Technician VI**

**Term Hours: 72 Lec, 0 Lab**

#### **Letter Grade Only**

Prerequisite: APTL 105 - Telecommunications Technician V.

Instruction in installation, configuration, testing, maintaining, troubleshooting and repairing the District's SCADA, data-communication, revenue meter, and associated power plant systems. (Nontransferable, nondegree applicable)

### **APTL 107 (4 Units)**

#### **Telecommunications Technician VII**

**Term Hours: 72 Lec, 0 Lab**

#### **Letter Grade Only**

Prerequisite: APTL 106 - Telecommunications Technician VI.

Instruction in advanced installation, configuration, testing, maintaining, troubleshooting and repairing the District's SCADA, data-communication, revenue meter, and associated power plant systems. (Nontransferable, nondegree applicable)

### **APTL 108 (4 Units)**

#### **Telecommunications Technician VIII**

**Term Hours: 72 Lec, 0 Lab**

#### **Letter Grade Only**

Prerequisite: APTL 107 - Telecommunications Technician VII.

Instruction in advanced installation, configuration, testing, maintaining, troubleshooting and repairing the District's SCADA, data-communication, revenue meter, and associated power plant systems. (Nontransferable, nondegree applicable)

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